

Service Manual

Mini Cassette



Stereo Radio Cassette Player

RQ-SX50V



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AR10 Mechanism Series

Specifications

General:

Power Requirement:

Battery; DC 1.5 V one "R6/LR6, AA, UM-3" size battery
 (not included)
 (Panasonic R6, LR6 or equivalent not included)
 Rechargeable Battery; DC 1.2 V with an included
 Panasonic Rechargeable Battery (RP-BP61SYS1)x1

Power Output:

4 mW+4 mW (RMS...max.)

Output Jack:

Headphones; 30 ohm

Dimensions: 109.6 (Wide) / 80.2 (High) / 21.9 (Depth) mm

Weight: 178 g (with rechargeable battery)

Charger: (RP-BC155AEY) (included)

Input; AC 120-240 V, 50 Hz, 4 VA

Output; DC 340 mA, 1.2 V

Playing time:

(When used in hold mode, at 25 °C on a flat and stable surface.)

The play time may be shorter depending on the operating conditions.

Function Battery type	Tape	Radio
Rechargeable (A)	15	14
Panasonic alkaline	51	47
Both together (A)	65	60

Radio:

Frequency Range:

AM mode	AM (kHz)	FM (MHz)
9 kHz mode	522-1629	87.50-108.00
10 kHz mode	520-1630	87.50-108.00

(0.1MHz steps)

TV; 1-12 ch (Japan mode only)

Intermediate Frequency: AM; 450 kHz, FM; 10.6 MHz

Sensitivity: AM; 316.2 μ V/m/0.5mW output (Max)

FM; 2.5 μ V/0.5 mW (-3 dB Limit sense)

Cassette Player:

Frequency Range (Normal/High/Metal): 40~18,000 Hz

Track System: 4-track 2-channel stereo playback

Note: Design and specifications are subject to change without notice.

Weight and dimensions are approximate.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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Accessories

Stereo earphones 1pc.
(RFEV316P-KIS)



Remote controller 1pc.
(RFEV012P-KS)



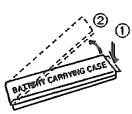
Charger 1pc.
(RP-BC156APY)...(P)
(EP-BC156PCY)...(PC)
(RP-BC155AEY)...(EB, EG)



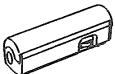
Rechargeable battery 1pc.
(RP-BP61PYS1)...(P, PC)
(RP-BP62EYS1)...(EB, EG)



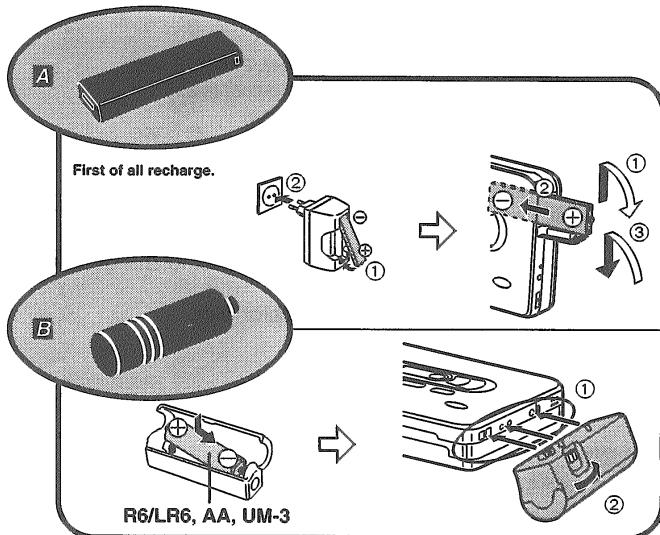
Rechargeable battery carrying case 1pc.
(RFA0475-Q)



Dry cell battery case 1pc.
(RFA0617-H)



Power Sources



A Rechargeable battery

- Use only the included charger when recharging.
- The chart shows expected use after 2 hours (11 hours at 120 V) of recharging at 25°C.

Tape playback	About 15 hours
Radio reception	About 14 hours

- The rechargeable battery can be recharged about 300 times. When its operation time becomes extremely shortened, that's time for replacing it.

B Dry cell battery

C Battery condition indicators

- When the battery becomes weak The indicators will flash.
- Recharge the rechargeable battery or replace the dry cell battery with a new one.

- To confirm the indicators on the main unit in the stop mode Press **BATT CHECK**.

- To extend the playback time Install both types of battery (rechargeable and dry cell battery) in the unit.

Memory Presetting

(Available only from the main unit)
Frequencies of up to 20 radio stations (10 each for AM and FM) can be stored in the memory.

Preparation

• Release hold.
• Connect the earphones (the cord of the earphones acts as an FM antenna) when storing frequencies of FM stations in the memory.

Auto memory function

The frequencies of each band are automatically stored in ascending order in the memory.

1. Press RADIO/BAND to switch on the power.
2. Press MODE to display "MEMO".
3. Press and hold \Rightarrow AUTO.

The confirmation beep sounds as each frequency is stored.

When "error" appears on the display: Correct presetting may not be possible in cases where the broadcast signals are too strong or too weak. In such cases, carry out presetting manually. (See below.)

Manual memory function

1. Press RADIO/BAND to switch on the power.
2. Press MODE to display "MEMO".
3. Press RADIO/BAND to select the band.
4. Press and hold MODE until the displayed frequency flashes.
5. Press + or - to select the broadcast frequency.
6. Press MODE so that "M" and the memory number flashes.
7. Press + or - to select the memory number to store the frequency.
8. Press MODE.

To erase an unnecessary station from the memory

1. Press RADIO/BAND to switch on the power.
2. Press MODE to display "MEMO".
3. Press RADIO/BAND to select the band.
4. Press + or - to select the memory number to be removed.
5. Press and hold MODE until the displayed frequency flashes.
6. Press and hold MODE until "M" and "----" flashes.
7. Press MODE.

6. Press + or - to select the desired station.
7. Adjust the volume.

To turn off the radio:

Press \blacksquare OFF (main unit) or press and hold the main button (remote control).

To obtain better reception

When listening to AM broadcasts: **B**
As a built-in ferrite antenna is used, try various directions to obtain optimum reception.

When listening to FM broadcasts:
As the cord of the earphones acts as the FM antenna, extend it as far as possible rather than leaving it coiled.

Automatic tuning (for free mode)

When selecting a broadcast frequency, press and hold + or - until the frequency display begins to change. It will automatically stop when a station is located.

To stop automatic tuning:

Press + or - again.

To convert the AM frequency step

(Available only from the main unit)
At the time of purchase, the AM band frequency changes in 9 kHz steps. These steps can be converted from 9 to 10 kHz to receive radio stations in a different country or area which cannot be tuned in 9 kHz steps.

• Converting the frequency step erases the stations previously stored in the memory.

1. Press RADIO/BAND to switch on the power.

2. Press RADIO/BAND for more than 5 seconds to display the step.

3. Press + or - to select the step.

Each press changes the indication to "AM, 9" or "AM, 10".

"AM, 9": 9 kHz step.
For use in Southeast Asia or Europe.

"AM, 10": 10 kHz step.
For use in North and South America or parts of Southeast Asia.

4. Press and hold MODE to confirm the AM broadcast frequency.

To return to the previous frequency step:
Follow the steps above.

Listening to the Radio

A

1. Connect the stereo earphones and the remote control.
2. Release hold.

3. Press RADIO/BAND (main unit) or press and hold the main button (remote control) to switch on the power.

4. Press MODE to display "MEMO" (MEMO mode) or not (free mode). MEMO mode: To listen to a preset station

Free mode: To listen to a desired station (not preset)

5. Press RADIO/BAND (main unit) or the main button (remote control) to select the band.

Each press changes the indication between AM and FM.

To select stereo or monaural FM

When there is noise during FM reception: **C**

Press and hold SOUND SEL during reception to display "MONO". The sound becomes monaural, but noise is reduced.

Automatic memory scan (for MEMO mode)

After selecting a band, press and hold + or - until the frequency display begins to change.

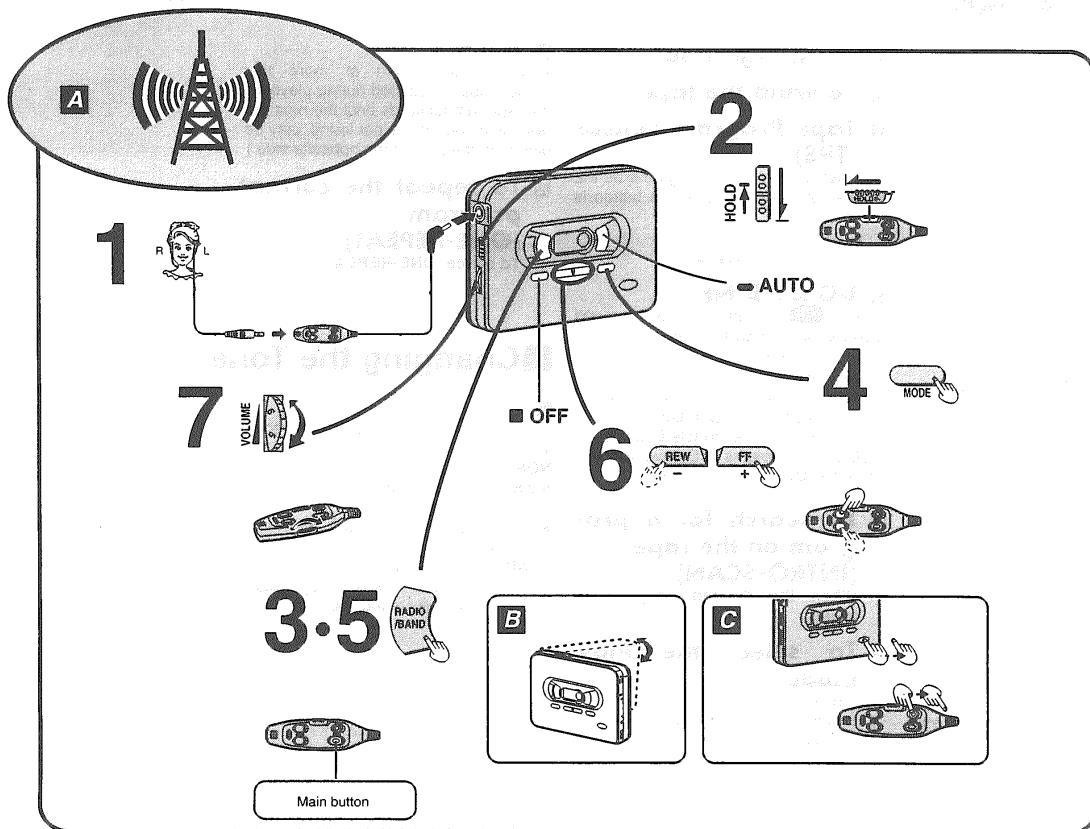
This function allows you to listen to each of the broadcast stations stored in the memory for about 5 seconds in order.

When a broadcast you like is being received:

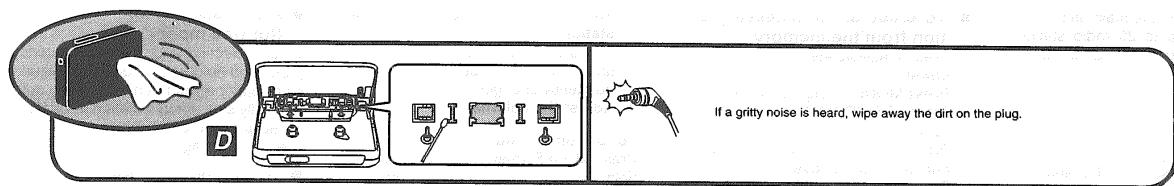
Press + or - again.

To release the scan:

Press \Rightarrow AUTO on the main unit.



Maintenance



Head care

To ensure good sound quality, clean the head after approximately every 10 hours of use with a cotton swab dampened with a little alcohol.

Main unit

Clean the cabinet with a cloth, dampened in mild solution of soap and water. Do not use benzine or thinner or aerosol type cleaner.

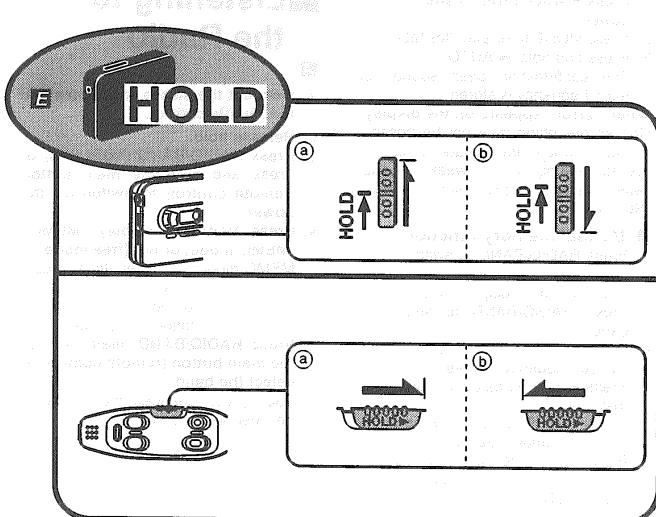
Cautions

- Insert the batteries in the correct polarities to avoid leakage and damage to this unit.
- Remove all the batteries if the set will not be used for a long period of time.
- Do not peel off the plastic covering on the rechargeable battery.
- To avoid product damage, do not expose this product to rain, water or other liquids.
- Avoid using or placing this unit near sources of heat. Do not leave it in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

Hold Function

E This function prevents the unit from operating in error.

- To hold
- To release (Before operation)
- The function on the main unit and the remote control are independent of each other.



Playing a Tape

F This unit is equipped with an auto tape select function, so you can use normal, high or metal position tapes.

1. Insert the cassette tape.

Tapeslack is wound automatically when the cover is closed and playback will be ready to start from the forward side.

- (a) Forward side
- (b) Reverse side

2. Connect the stereo earphones and the remote control.

3. Release hold.

4. Press **◀ ▶** (main unit) or the main button (remote control).

5. Adjust the volume.

Do not play your headphones or earphones at high volume.
(Before using the volume control on the remote control, be sure to adjust VOLUME on the main unit to the "5-7" position.)

To stop playback:

Press **■ OFF** (main unit) or the main button (remote control).

■ Illuminated remote control

Pressing any button on the remote control or the unit lights the display for about 8 seconds (3 seconds when stopped): this enables easy use even in darkness.

④ To confirm the display without operation

■ To change sides

■ To wind the tape

■ Tape Program Sensor (TPS)

You can skip as many programs as the number of times (up to 9) the button is pressed.

④ To switch to playback

■ DOLBY B NR

Select **"ON"** to reduce noise on tapes recorded with Dolby B NR to $\frac{1}{2}$.

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■ To search for a program on the tape (INTRO-SCAN)

④ When the desired program is found

■ To select the Play mode

BS: Blank skip function works.
④: Both sides of the tape are played continuously.
④: Both the forward and reverse sides are played through once.

■ Blank-Skip:

When a silent part of more than 13 seconds is detected during playback, the tape fast forwards until the next program is found. (If it is not found, play begins from the start of the opposite side.)

■ To repeat the current program (ONE-REPEAT)

④ To cancel ONE-REPEAT

Changing the Tone

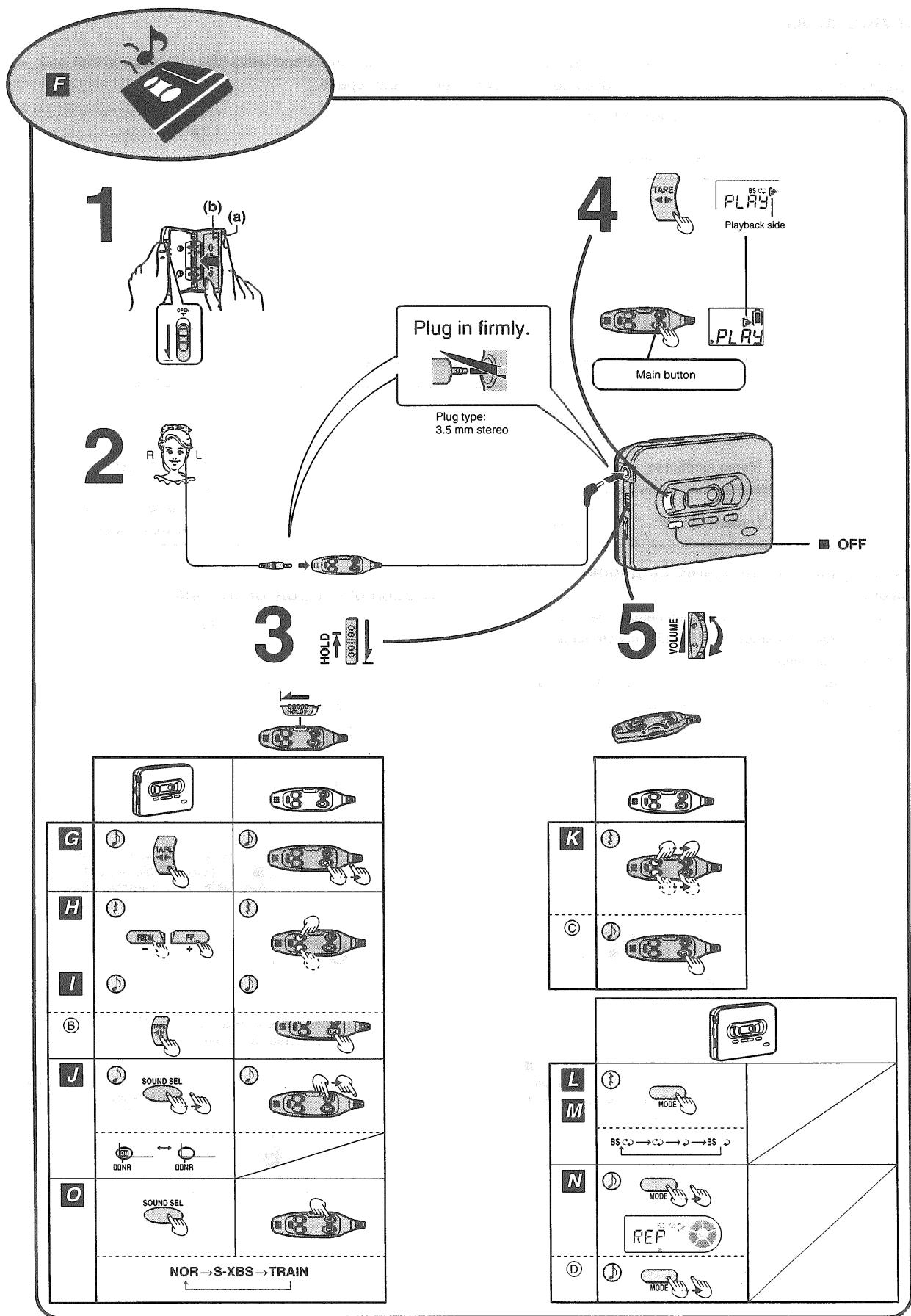
④ Works when playing a tape or listening to the radio.

NOR: Normal sound.

S-XBS: Boosts the low frequency range.

④ If distortion occurs, turn down the volume.

TRAIN: Cuts down the audible level of sound which may disturb those around you.



■Service Mode

This unit and its remote controller have a service mode which can be used to locate errors and faults (the remote controller and stereo earphones are detachable. Refer to this document to provide service and repairs.

Quick reference for service mode errors

The following table shows error identification criteria:

Service mode		Component	Judgment criteria			
(1)	Unit and stereo earphones test	Unit	OK	OK	NG	NG
		Stereo earphones	OK	NG	OK	NG
		Location of fault	No faults	Stereo earphones	Unit	Unit and stereo earphones
(2)	Remote controller and stereo earphones test	Remote controller	OK	OK	NG	NG
		Stereo earphones	OK	NG	OK	NG
		Location of fault	No faults	Stereo earphones	Remote controller	Remote controller and stereo earphones

(1) Checking the unit and stereo earphones

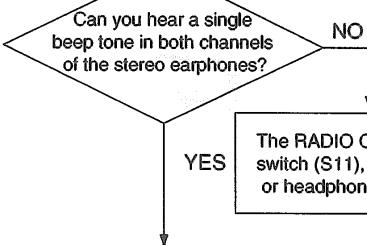
Preparations:

1. Firmly plug the stereo earphones into the headphones jack.
2. Install fully-charged rechargeable or R6/ LR6 dry cell batteries into the battery compartment.
3. Load a music tape into the unit and close the cassette compartment lid.
4. Make sure the HOLD button on the unit is off.
5. Press the MODE switch, and set the Blank Skip/Reverse Mode to "OFF/ ".

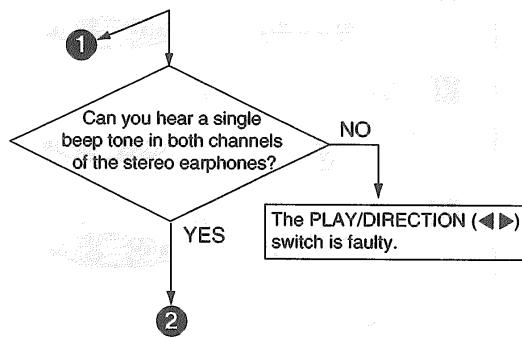
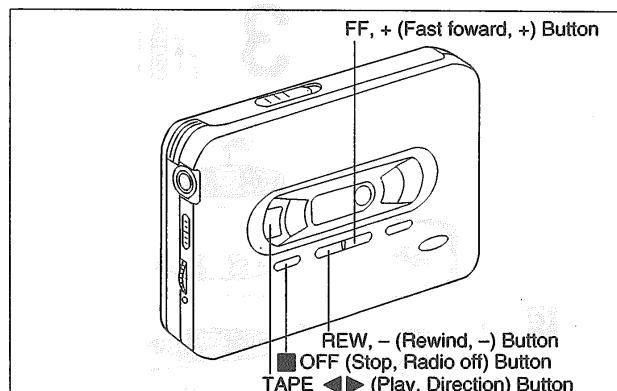
Procedure

Press and hold the RADIO OFF/ STOP (■) button for more than 5 sec.

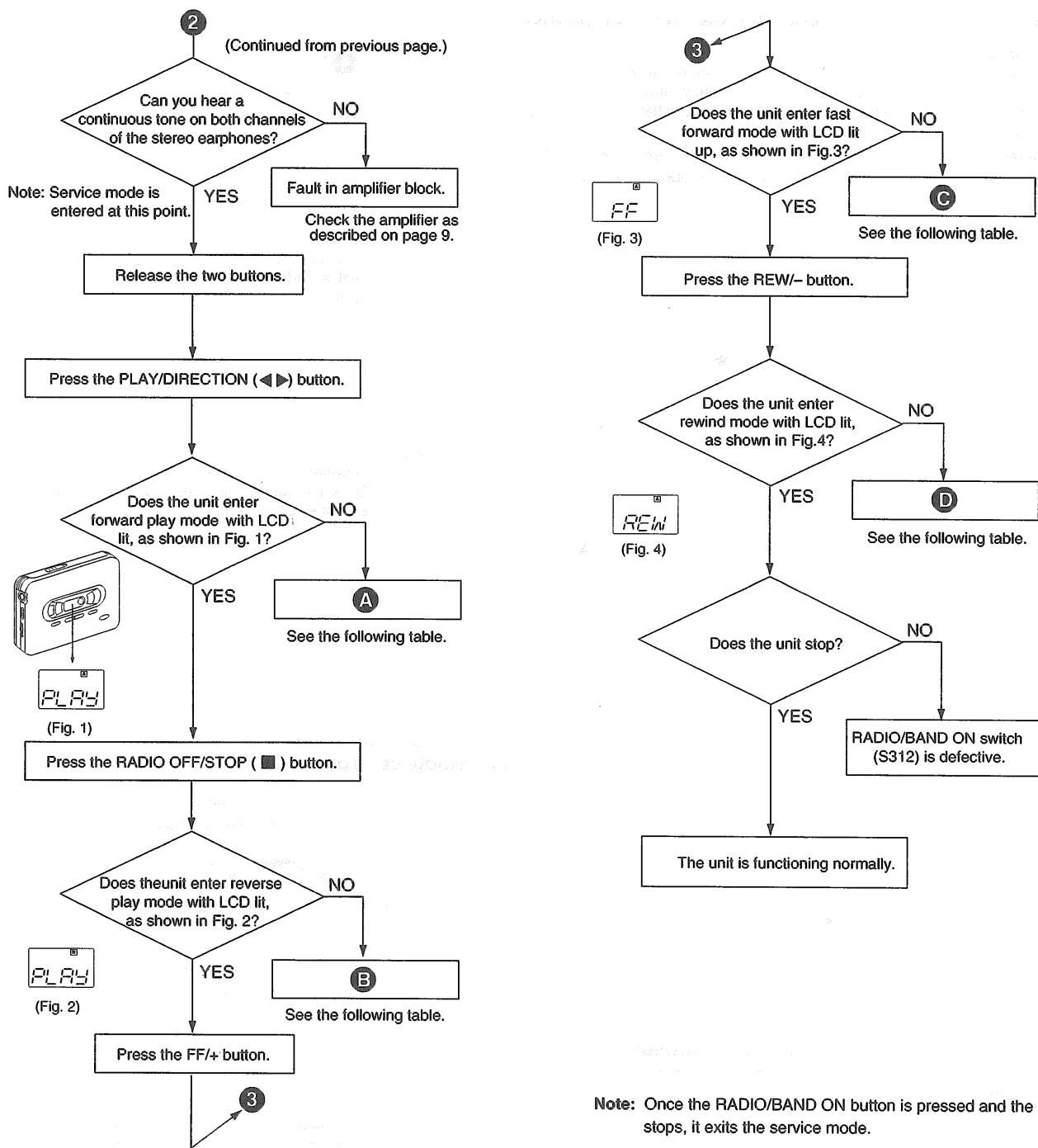
Note: Be sure not to release the RADIO OFF/ STOP (■) button.



• Location of controls on the unit



(Continued on the next page.)



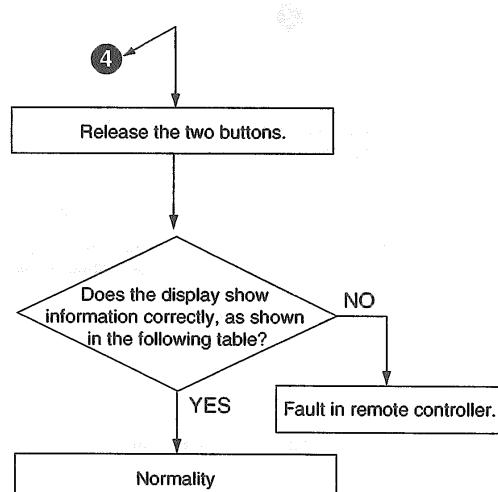
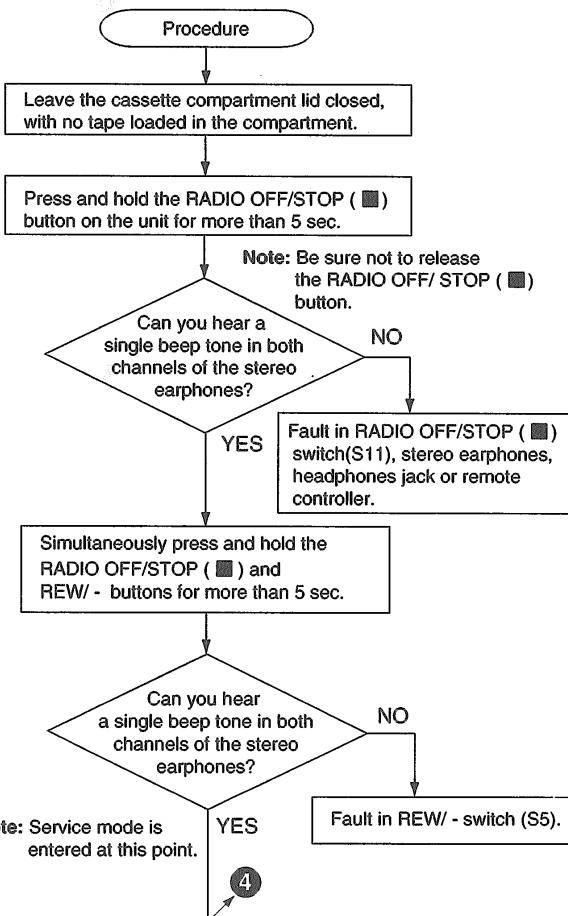
• Troubleshooting

Location of fault	Symptom	Faulty component
A	The unit fails to enter play mode or change the direction of play when the PLAY/DIRECTION (◀▶) button is pressed.	Fault in S7(PLAY/ DIRECTION), S11(RADIO OFF/ STOP) or motor.
B	The unit fails to enter fast forward mode when the FF/+ button is pressed.	Fault in S8(FF/+).
C	The unit fails to enter rewind mode when the REW/- button is pressed.	Fault in S5(REW/ -).

(2) Checking the remote controller and stereo earphones

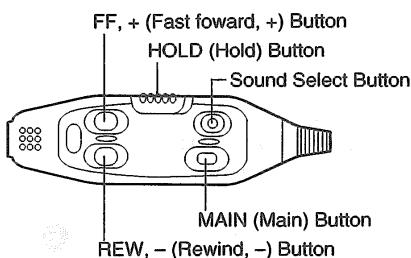
Preparations:

1. Firmly plug the remote controller into the headphones jack.
2. Firmly plug the stereo earphones into the remote controller.
3. Install fully-charged rechargeable or R6/ LR6 dry cell batteries into the battery compartment.
4. Leave the cassette compartment lid closed, with no tape loaded in the compartment.
5. Make sure the HOLD buttons on the unit and remote controller are off.



Note: The remote controller will continue to display the information last called up in service mode. Once the batteries are removed from the unit, it exits the service mode.

• Location of controls and connections on the remote controller



• Procedure for testing the remote controller

Remote controller operation	Enters service mode. → Press main button. → Press FF button. → Press REW button. → Press One-repeat/ EQ button.
Normal information display	<p>“PLAY” is displayed on the display panel.</p> <p>“FF” is displayed on the display panel.</p> <p>“REW” is displayed on the display panel.</p> <p>“522” is displayed on the display panel.</p> <p>After a single tone in the both channels of the stereo earphones hear, the display panel glows blue and “OFF” is displayed for about 5 sec.</p>

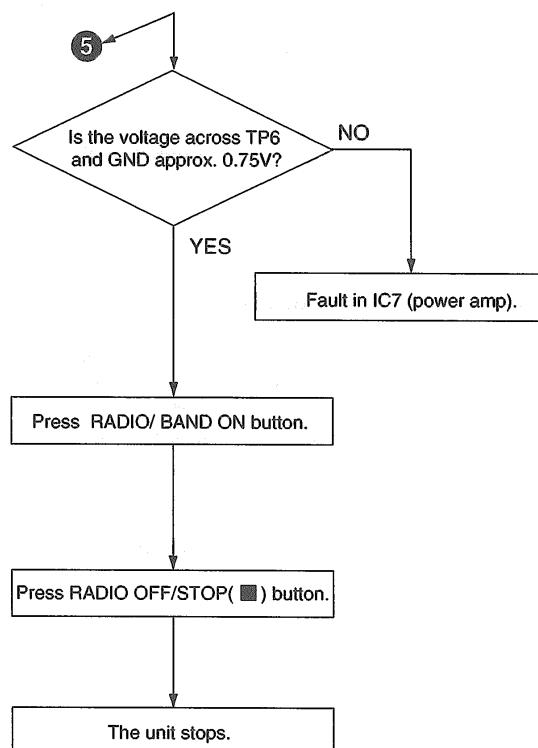
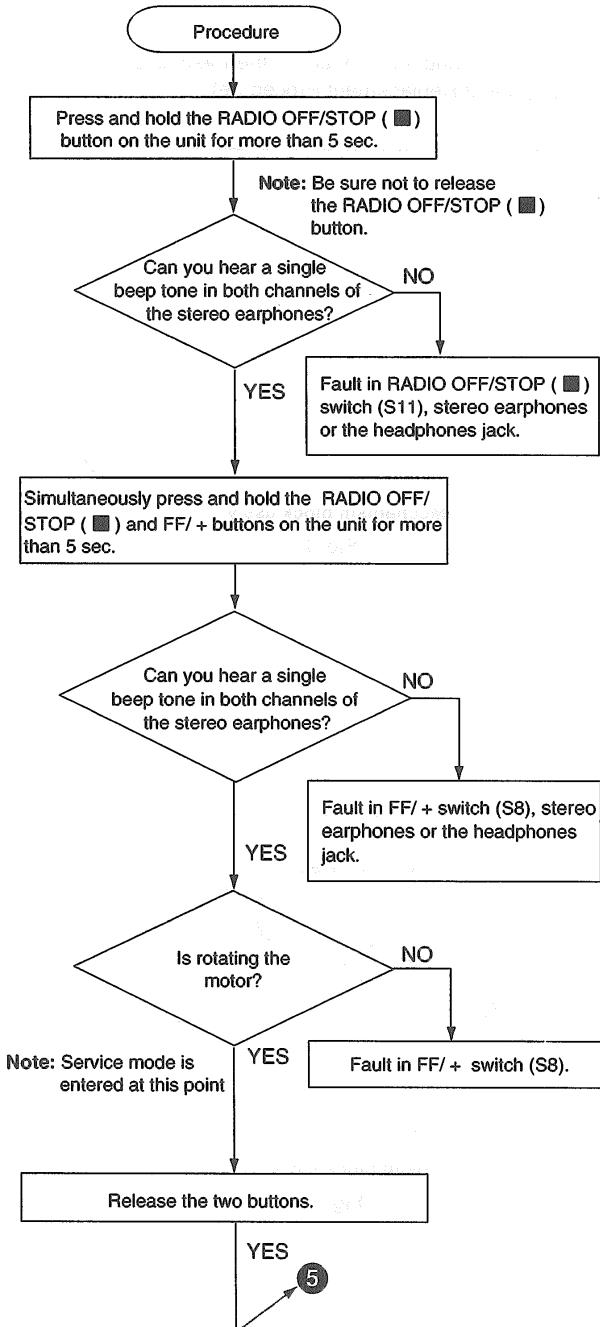
• The remote controller is functioning normally if it displays information as shown in the table above.

(3) Checking the amplifier block

The following procedure is only necessary if a fault in the amplifier block was detected during testing of the unit or stereo earphones.

Preparations:

1. Make sure the HOLD button on the unit is off.
2. Follow the steps described in Step 12 of checking for the main P.C.B. on page 11.
3. Firmly plug the stereo earphones into the headphones jack.



Notes: ● The motor is rotating when do not the RADIO/BAND ON button but the RADIO OFF/STOP (■) button.
 ● Push the RADIO/BAND ON button after the motor stopped.
 ● In service mode, the unit stays in fast forward mode until the RADIO OFF/STOP (■) button is pressed, at which time the unit exits service mode.

■ Mechanism Block Replacement Procedure

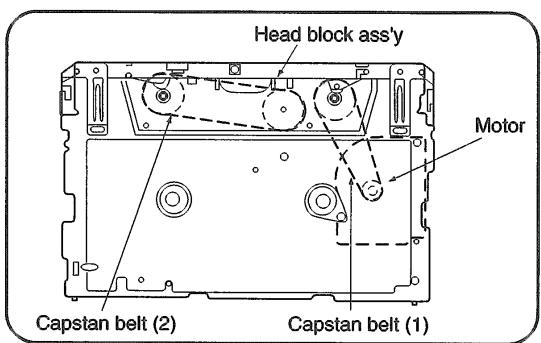
• Mechanism block replacement

Repair parts are supplied in the form of a mechanism block ass'y, from which the head block, motor, and capstan belts (1) and (2) are removed.

Before replacing the mechanism block, perform the following steps :

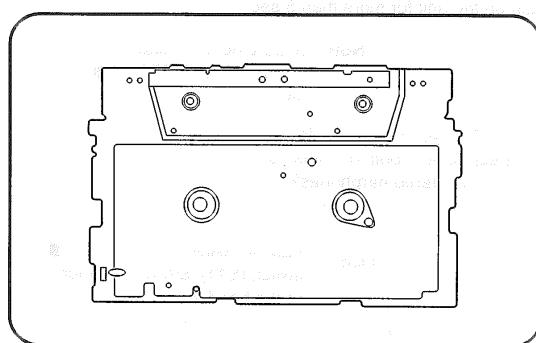
Preparations

Remove the head block, motor, and capstan belts (1) and (2) from the unit, and install them in the mechanism block ass'y (for disassembly, refer to Operation Checks and Main Component Replacement Procedure).



Mechanism block

Fig. 1



Mechanism block ass'y

Fig. 2

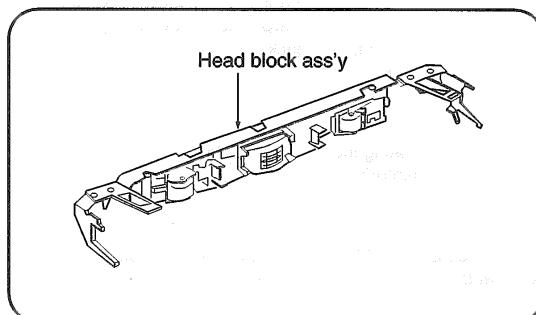
* No adjustment is needed after replacement.

• Head block replacement

Repair parts are supplied in the form of a complete head block ass'y, which includes the head, head arm spring, and pinch roller arms (F) and (R).

The head arm spring and pinch roller arms can also be supplied separately on request.

* No head azimuth adjustment is needed.



Head block ass'y

Fig. 3

■ Operation Checks and Component Replacement Procedures

NOTE

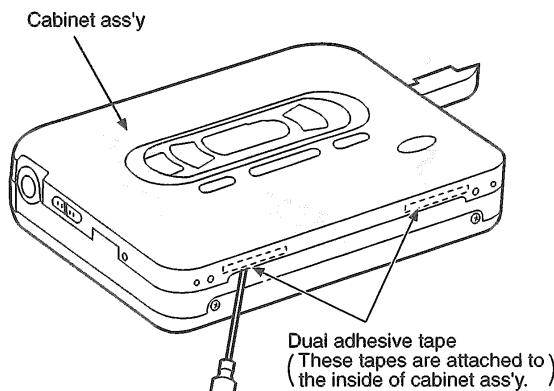
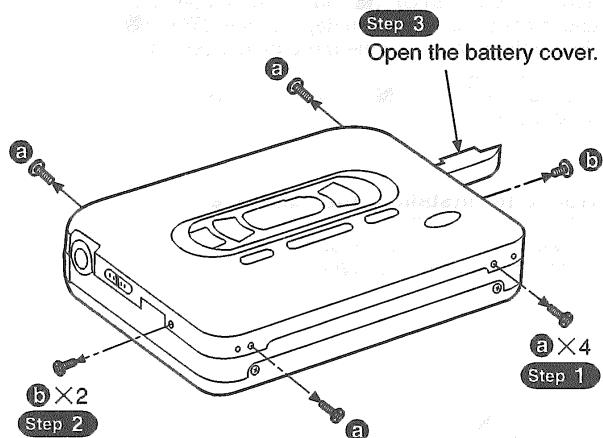
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. [] indicates parts No.

● Contents

	Page.
1. Checking for the main P.C.B.	11,12.
2. Replacement for the motor and capstan belt.	13.
3. Replacement for the intermediate ornament (A).	14.
4. Replacement for the head block ass'y.	14,15.

1. Checking for the main P.C.B.

(Checking for the main P.C.B. (A side))

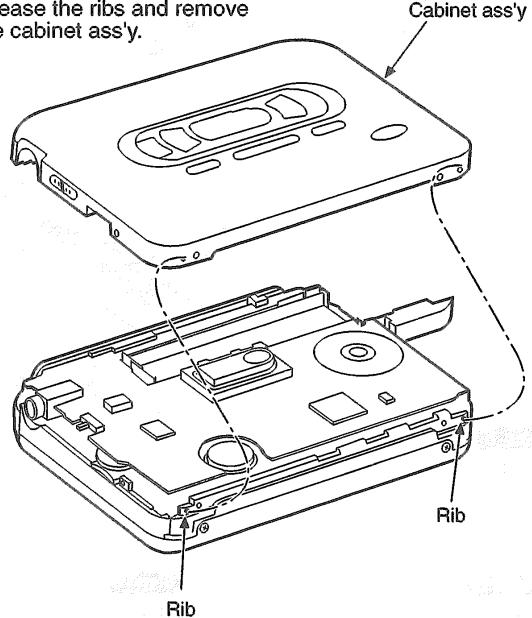


Step 4

Insert the thin tip of minus screwdriver into the clearance between the cabinet ass'y and intermediate cabinet ass'y, and then peel the tape off.

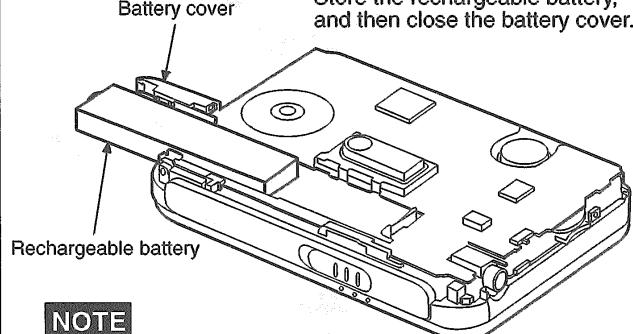
Step 5

When peeling the tape off, release the ribs and remove the cabinet ass'y.



Step 6

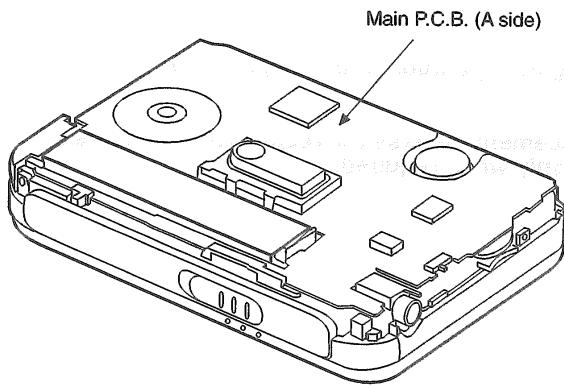
Store the rechargeable battery, and then close the battery cover.



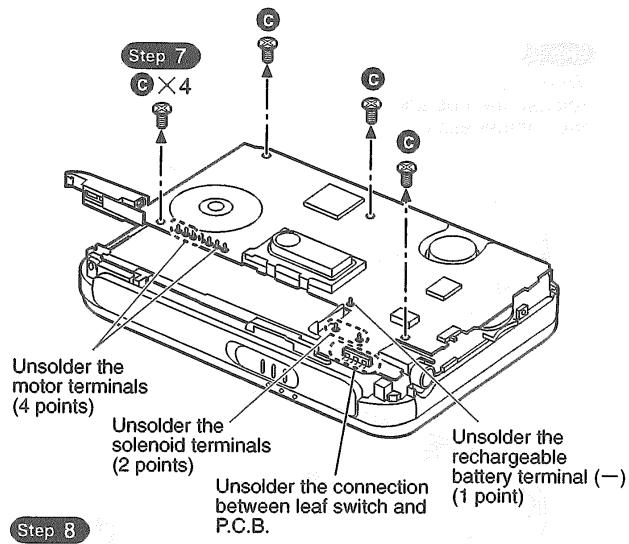
NOTE

The rechargeable battery should be recharged fully.

• Check the main P.C.B. (A side) as shown below.

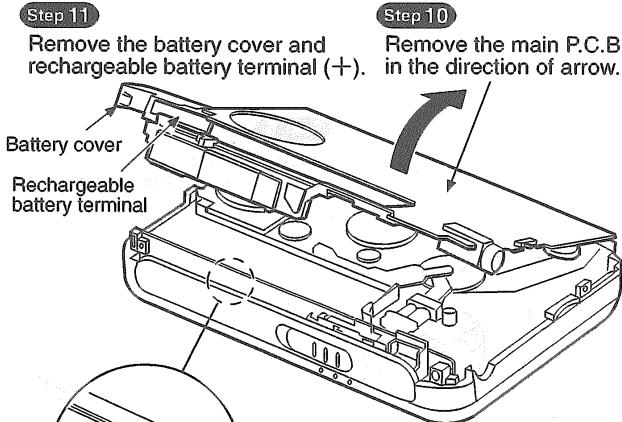


⟨Removal for checking the main P.C.B. (B side)⟩



Step 8

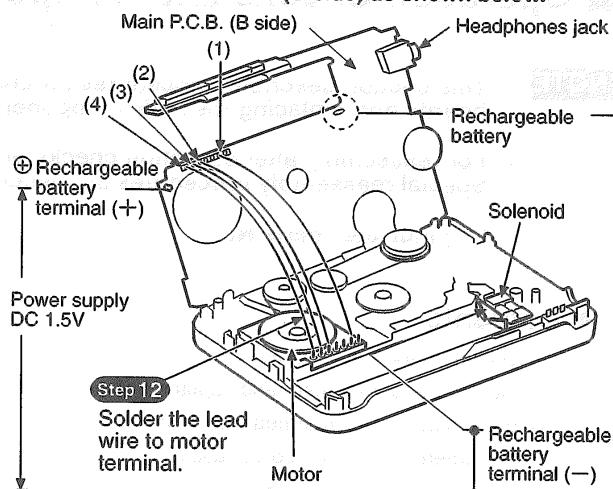
Unsolder each point.



Step 9

Release the claw.

• Check the main P.C.B. (B side) as shown below.



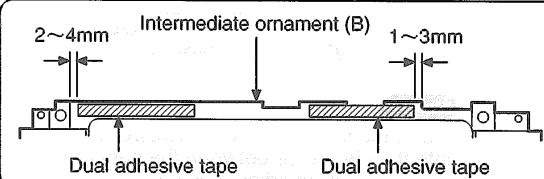
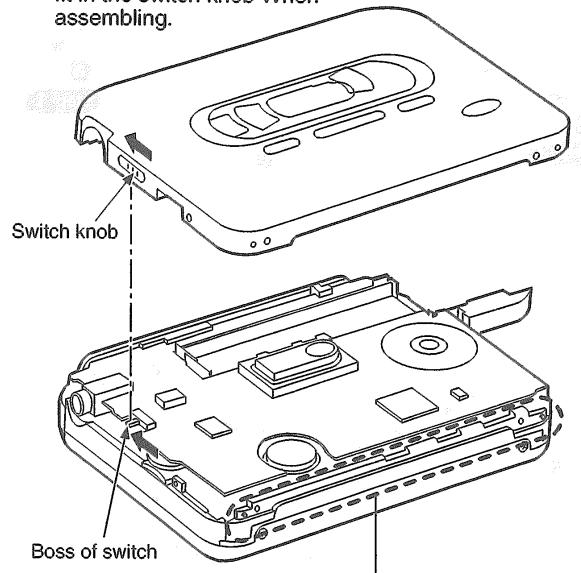
■ Operation Checks

Confirm that the beeper sounds once by headphones when depressing the STOP (■) button more than 5 sec. under above condition, and then depress the STOP (■) and FWD (FF) buttons at same time more than 5 sec., so the FF mode will be operated.

Depress the STOP (■) button, and then that operation will be stopped.

Notice for installing the cabinet ass'y

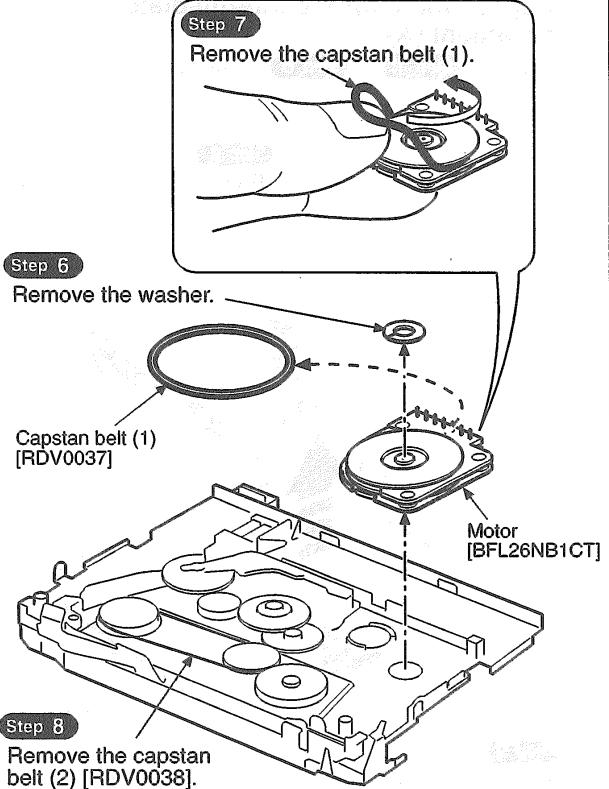
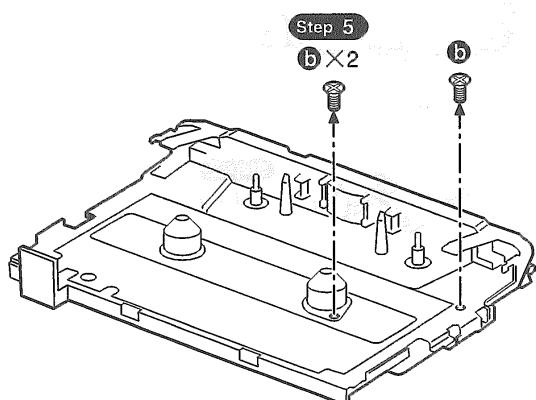
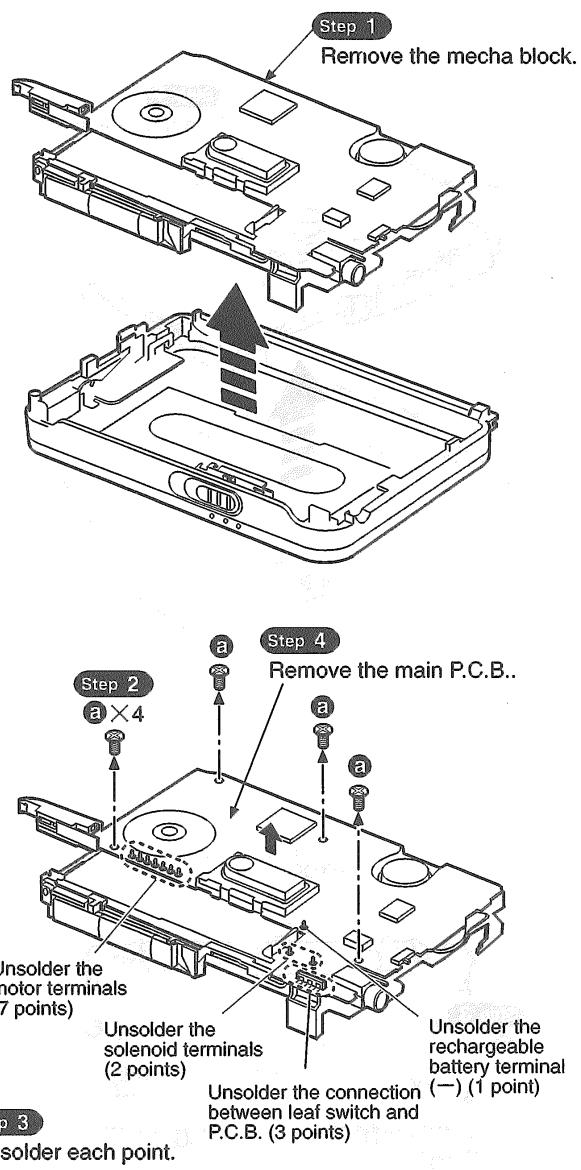
1. Make sure the boss of switch are fit in the switch knob When assembling.



2. Apply the new dual adhesive tape to the intermediate ornament (B). (Peel the old tapes off completely.)

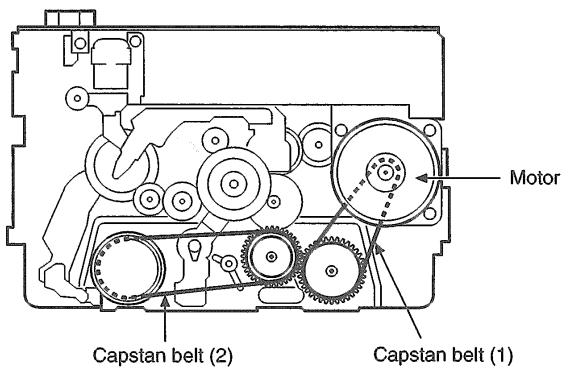
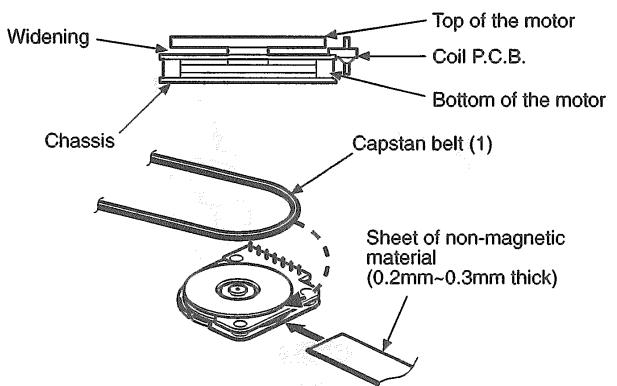
2. Replacement for the motor and capstan belt

• Follow the Step 1 ~ Step 6 of the item 1 on page 11.



Installing the capstan belt (1)

• When install the capstan belt (1) to motor, push up the motor by insert the non-magnetic material sheet between bottom of the motor and the chassis, and install the capstan belt (1) between top of the motor and the coil P.C.B..

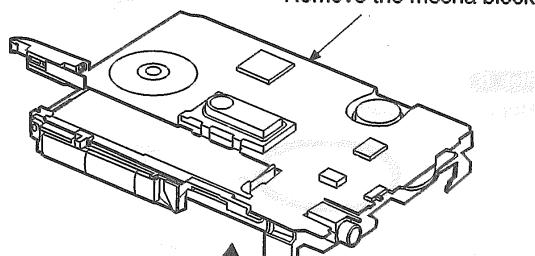


3. Replacement for the intermediate ornament (A)

• Follow the **Step 1** ~ **Step 6** of the item 1 on page 11.

Step 1

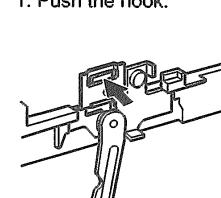
Remove the mecha block.



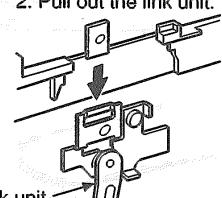
Step 2

Push the open knob, and then open the cassette lid.

1. Push the hook.



2. Pull out the link unit.



Link unit

Step 3

Remove the link unit from intermediate ornament (A).

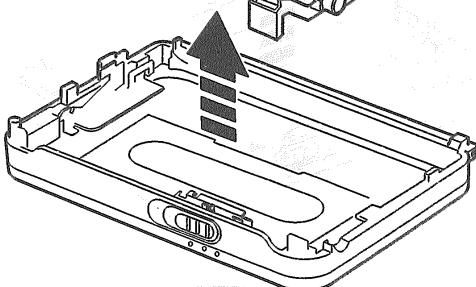
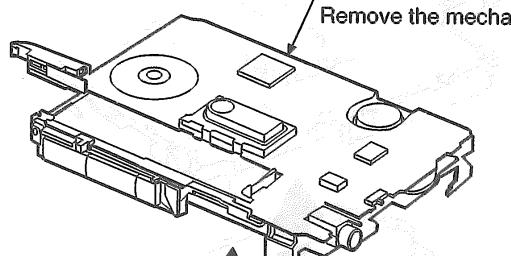
Intermediate ornament (A)

4. Replacement for the head block ass'y

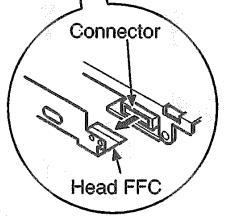
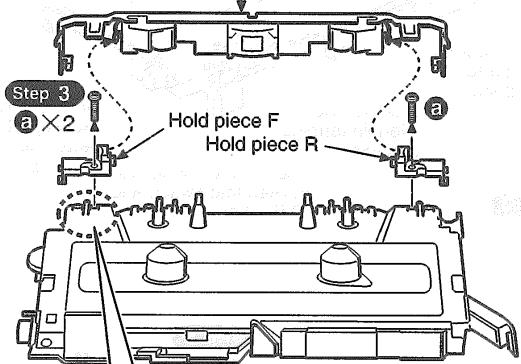
• Follow the **Step 1** ~ **Step 6** of the item 1 on page 11.

Step 1

Remove the mecha block.



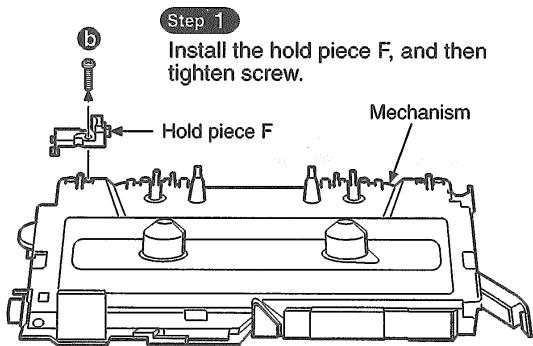
Head block ass'y
[RXQ0445-4]



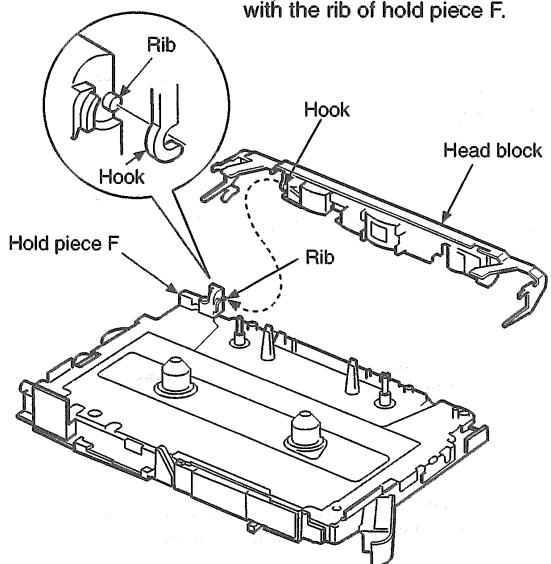
Step 2
Pull out the FFC.

Assembly procedures for head block ass'y after replacement**Step 1**

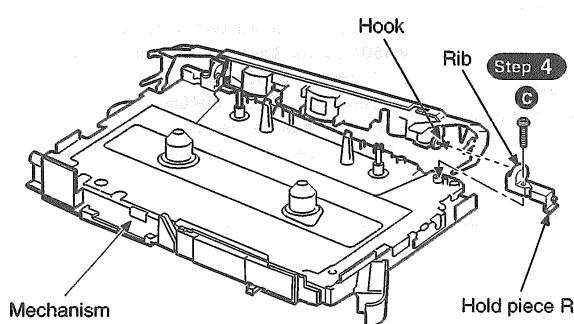
Install the hold piece F, and then tighten screw.

**Step 2**

Align the hook of head block ass'y with the rib of hold piece F.

**Step 3**

Align the hook of head block ass'y with the rib of hold piece R, and then install the hold piece R to the mechanism.



■ Measurements and Adjustments

• Preparation for Adjustment

Follow "step 1~ step 12" in item on pages 11, 12.

• Measurement Condition

1. Set volume control to maximum.	4. Release the hold state.
2. Set Dolby NR switch to OFF.	5. Set power source voltage to 1.5V DC.
3. Set RADIO/BAND switch to ON (FM stereo, AM/FM adjustment).	

• Measuring Instruments and Special Tools

1. Signal generator (AM, FM)	3. Frequency counter
2. Oscilloscope	

• Radio Section

• AM / FM Adjustment

Band	Signal Generator		Display Setting	Indicator (Oscilloscope)	Adjustment Point	Remarks
	Connection	Frequency				
AM	Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	594kHz	594kHz	Headphones jack (32Ω) (Refer to Fig. 2)	L202 (Refer to Fig. 3)	Adjust L202 for maximum output.
FM	TP131 or TP231 ... (+) TP132 or TP232 ... (-) (Refer to Fig. 1)	90MHz	90MHz	Headphones jack (32Ω) (Refer to Fig. 2)	CT101 (Refer to Fig. 3)	Adjust CT101 for maximum output.

• FM Stereo Adjustment

Item	Input	Output	Adjustment Point	Procedure
FM Stereo adjustment	76MHz, 66dB TP131 or TP231 ... (+) TP132 or TP232 ... (-) (Refer to Fig. 1)	TP118 or TP218 ... (+) TP132 or TP232 ... (-) (Connect a 220kΩ-330kΩ resistor between the test points TP118 or TP218 and TP132 or TP232 (Refer to Fig. 1))	VR3 (Refer to Fig. 2)	Adjust VR3 for 19 kHz ± 50 Hz reading on frequency counter.

• Tape Section

Item	Test Tape	Measurement Point	Adjustment Point	Procedure
Tape speed adjustment	QZZCWAT (3kHz, -10dB)	Connect the frequency counter to Headphones jack (32Ω) (Refer to Fig. 1)	VR601 (Refer to Fig. 3)	Playback the central part of the tape and adjust VR601 so that the tape speed is as follows. Forward: 3005 ± 15 Hz Reverse: 2970~3040Hz Make sure that the frequency range is within ±60Hz for between "Forward" and "Reverse" mode.

Note: The playback head is supplied on the head arm assembly. (See the "Mechanism Parts Location" on page 30.)
The assembly requires no adjustment.

• Adjustment Point

Note: This printed board diagram shows a view the layer 4 side of pattern drawing (A) as shown in Fig. 1.

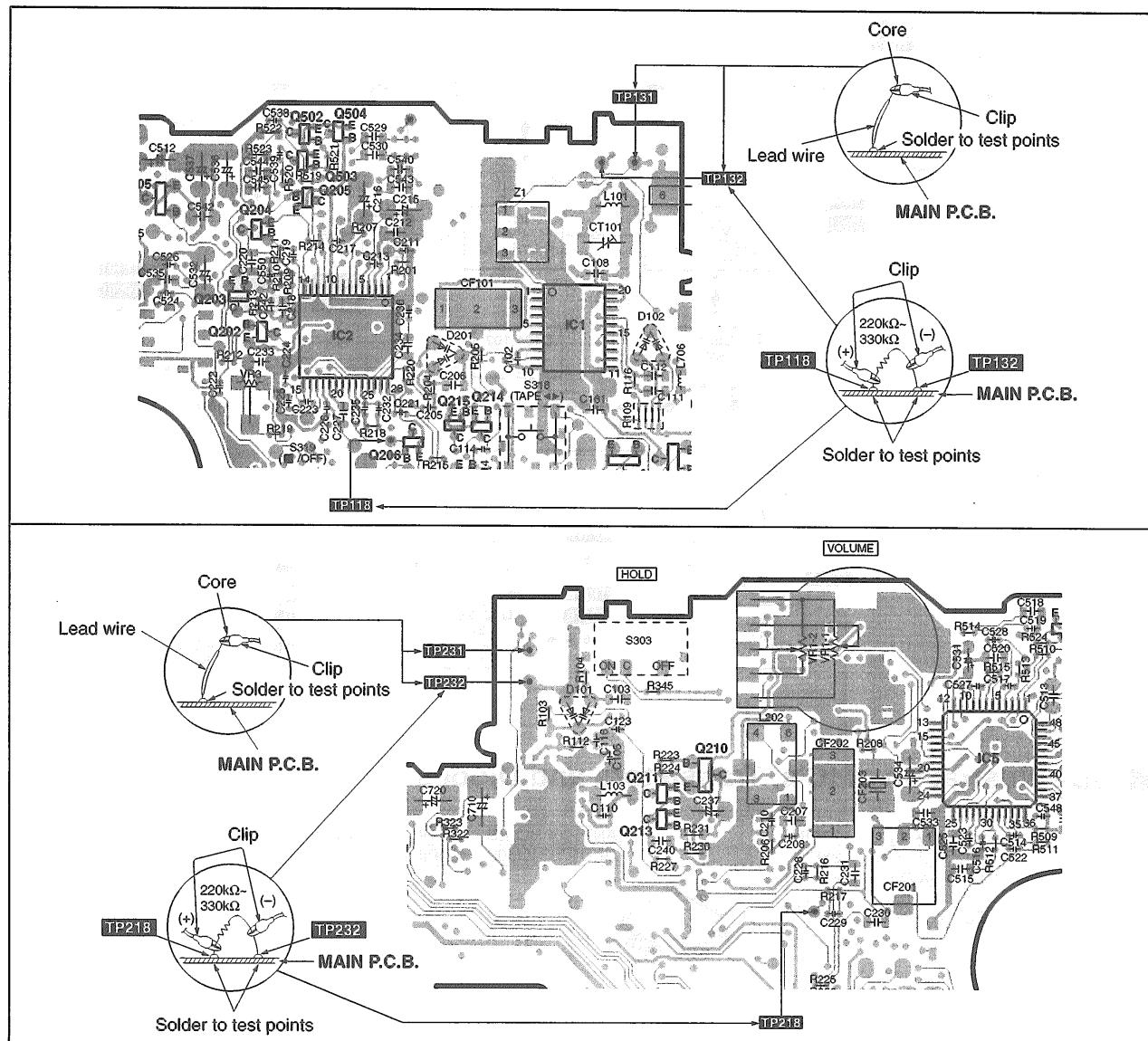


Fig. 1

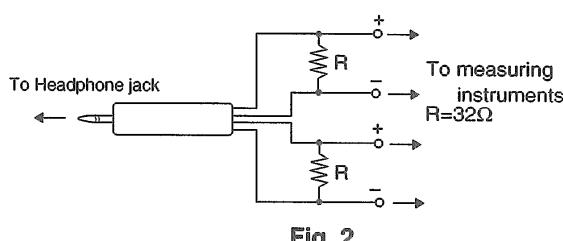


Fig. 2

Note: This adjustment points shown a front view of the IC5 mounting surface as shown in Fig. 3.

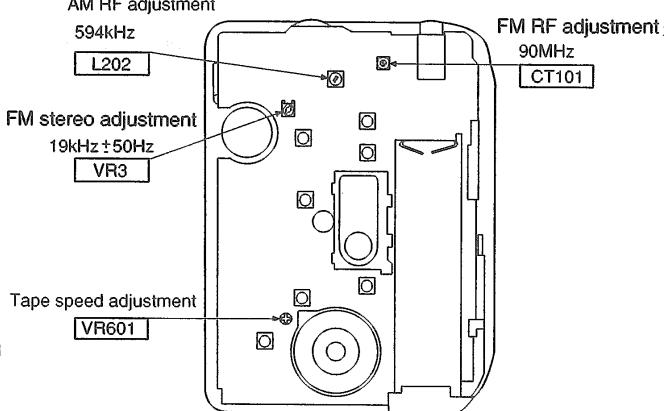
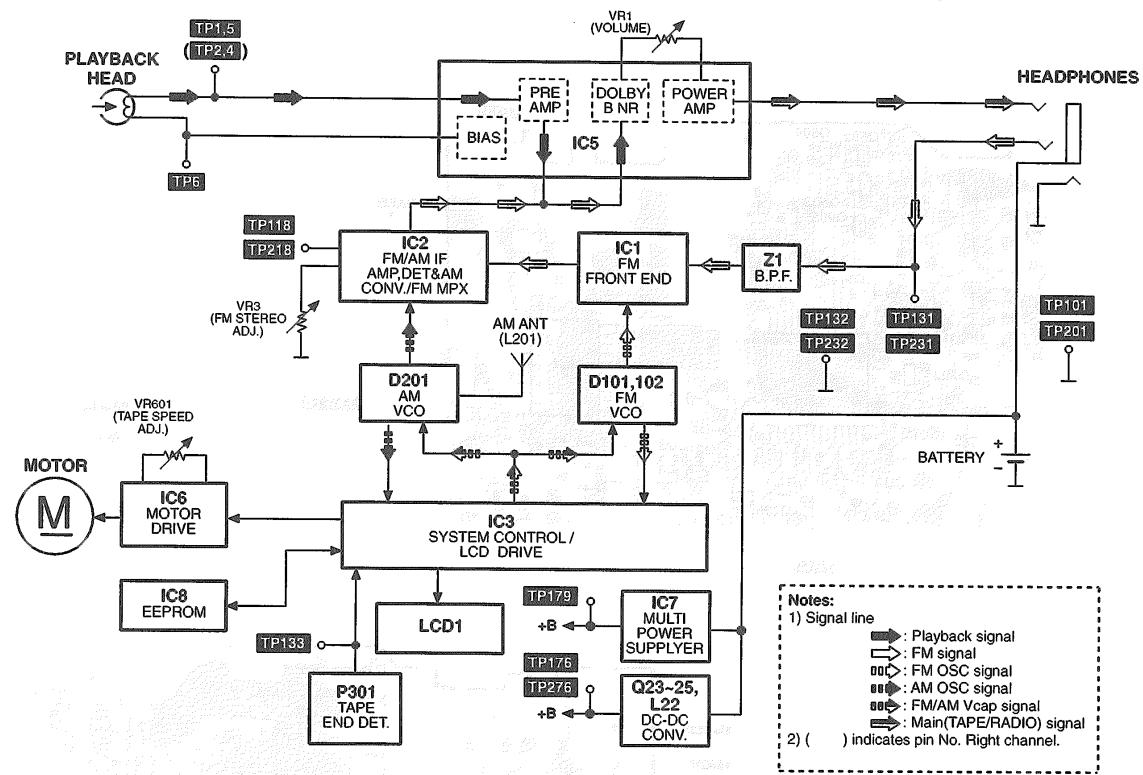
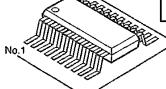
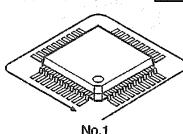
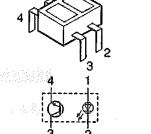
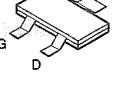
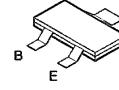
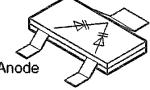
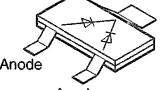
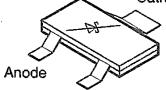
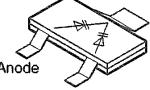
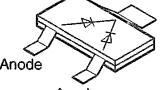


Fig. 3

Block Diagram



Type Illustration of IC's, Transistors and Diodes

 <p>No.1</p> <table border="1"> <tr><td>AN7208SA-E2</td><td>20PIN</td></tr> <tr><td>AN7233SH-E2V</td><td>28PIN</td></tr> <tr><td>MM1279XVBE</td><td>20PIN</td></tr> <tr><td>S29L130AFSTB</td><td>8PIN</td></tr> <tr><td>XC651A1001VR</td><td>16PIN</td></tr> </table>	AN7208SA-E2	20PIN	AN7233SH-E2V	28PIN	MM1279XVBE	20PIN	S29L130AFSTB	8PIN	XC651A1001VR	16PIN	 <p>No.1</p> <table border="1"> <tr><td>AN7500FHQ-EB</td><td>48PIN</td></tr> <tr><td>UPD17934G509</td><td>80PIN</td></tr> </table>	AN7500FHQ-EB	48PIN	UPD17934G509	80PIN	 <p>CNB1002001AU</p>	 <p>2SK1067-4-TL</p>																																		
AN7208SA-E2	20PIN																																																		
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UPD17934G509	80PIN																																																		
 <p>B C E</p> <table border="1"> <tr><td>2SA1745-7-TL</td><td>2SD1048X7TX</td><td>UN9116TX</td><td>MA111TX</td><td>MA8120MTX</td><td>MA729TX</td></tr> <tr><td>2SA1774STL</td><td>2SD2216RTX</td><td>UN9210TX</td><td></td><td></td><td></td></tr> <tr><td>2SB815B7TX</td><td>2SD2216STX</td><td>UN9214TX</td><td></td><td></td><td></td></tr> <tr><td>2SB1295-6-TB</td><td>2SD2436STXRA</td><td>UN9215TX</td><td></td><td></td><td></td></tr> <tr><td>2SB1462RTX</td><td>DTA143ZETL</td><td>UNR911BJTX</td><td></td><td></td><td></td></tr> <tr><td>2SB1462STX</td><td>DTC143ZETL</td><td>UNR921BJTX</td><td></td><td></td><td></td></tr> <tr><td>2SC3931CTX</td><td>UN9110TX</td><td></td><td></td><td></td><td></td></tr> <tr><td>2SC3935TX</td><td>UN9115TX</td><td></td><td></td><td></td><td></td></tr> </table>	2SA1745-7-TL	2SD1048X7TX	UN9116TX	MA111TX	MA8120MTX	MA729TX	2SA1774STL	2SD2216RTX	UN9210TX				2SB815B7TX	2SD2216STX	UN9214TX				2SB1295-6-TB	2SD2436STXRA	UN9215TX				2SB1462RTX	DTA143ZETL	UNR911BJTX				2SB1462STX	DTC143ZETL	UNR921BJTX				2SC3931CTX	UN9110TX					2SC3935TX	UN9115TX					 <p>Anode Cathode</p>	 <p>Anode Cathode</p>	
2SA1745-7-TL	2SD1048X7TX	UN9116TX	MA111TX	MA8120MTX	MA729TX																																														
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 <p>Anode Cathode</p>	 <p>Anode Cathode</p>	 <p>Anode Cathode</p>																																																	

■Schematic Diagram (See parts list on pages 31~33.)

● This schematic diagram may be modified at any time with development of new technology.)

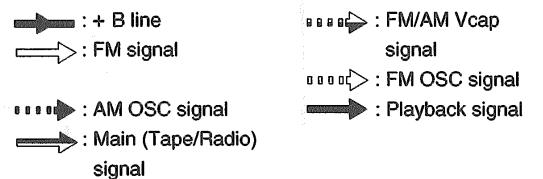
Notes:

- S13-1 : Tape IN/OUT det. switch in "OUT (OFF)" position.
[IN (ON)...Tape in, OUT (OFF)...Tape out]
- S13-2 : Tape detector (METAL/NORMAL) switch in "OFF (METAL)" position.
- S301 : Mechanism det. (FWD/STOP/REV) switch in "FWD" position.
- S303 : HOLD (HOLD) switch in OFF position.
- S312 : RADIO/BAND (RADIO/BAND) select switch.
- S313 : FF/+ (FF) switch.
- S314 : REW/- (REW) switch.
- S315 : MODE (MODE) select switch.
- S316 : SOUND SEL (SOUND SEL) switch.
- S317 : BATT. CHECK/ = AUTO (*BATT. CHECK/ = AUTO) switch.
- S318 : TAPE/◀▶ (◀▶) switch.
- S319 : ■/OFF (■) switch.
- VR1 : Volume adjustment.
- VR3 : FM stereo adjustment.
- VR601 : Tape speed adjustment.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
No mark...Playback, FM...< >, AM...()
- Current consumption of tape playback and radio mode: About 64 mA.
- Battery current:
Vol. min...40 mA (FM) Vol. max...45 mA (FM)
30 mA (AM) 33 mA (AM)
36 mA (TAPE) 43 mA (TAPE)

Measurement instruction

AM:	74dB/m, 30% Mod.
FM:	60dB, 30% Mod.
TAPE:	315Hz, 0dB

● Signal line

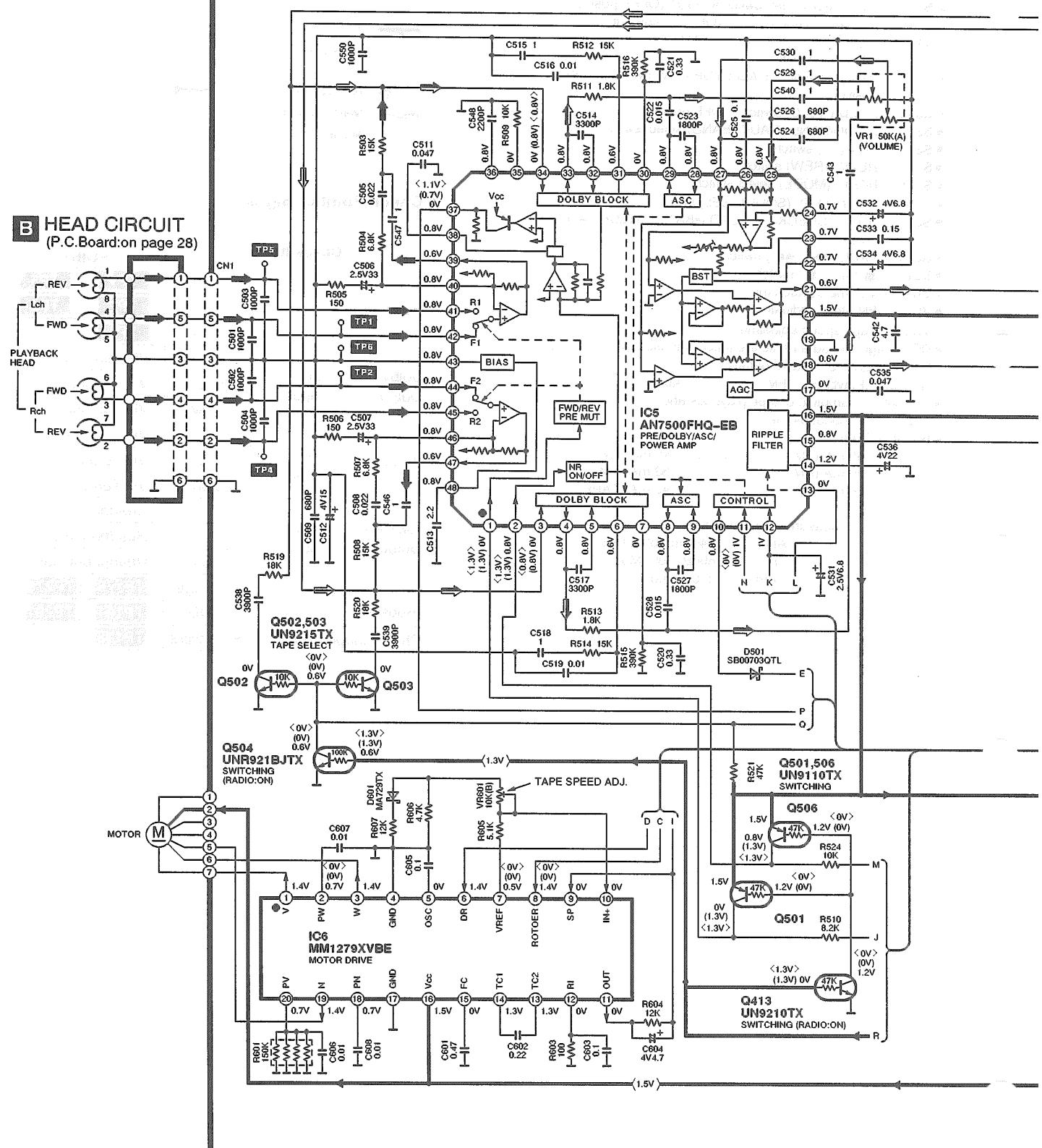


● Check Point of Signal

Check Item	TEST POINT	
Head Input	L ch	TP1 , TP5
	R ch	TP2 , TP4
	VREF	TP6
Dolby Output → VR Input	L ch	VR Terminal
	R ch	VR Terminal
	COM	VR Terminal
VR input → VR Output	L ch	VR Terminal
	R ch	VR Terminal
	COM	VR Terminal
Power amp. → Headphones Output	L ch	Headphone Jack
	R ch	Headphone Jack
	COM	Headphone Jack
DC-DC Converter (Booster)	2.4V output	TP176 (TP276)
	GND	TP101 (TP201)
Photo Coupler (End)	Pulse output	TP133

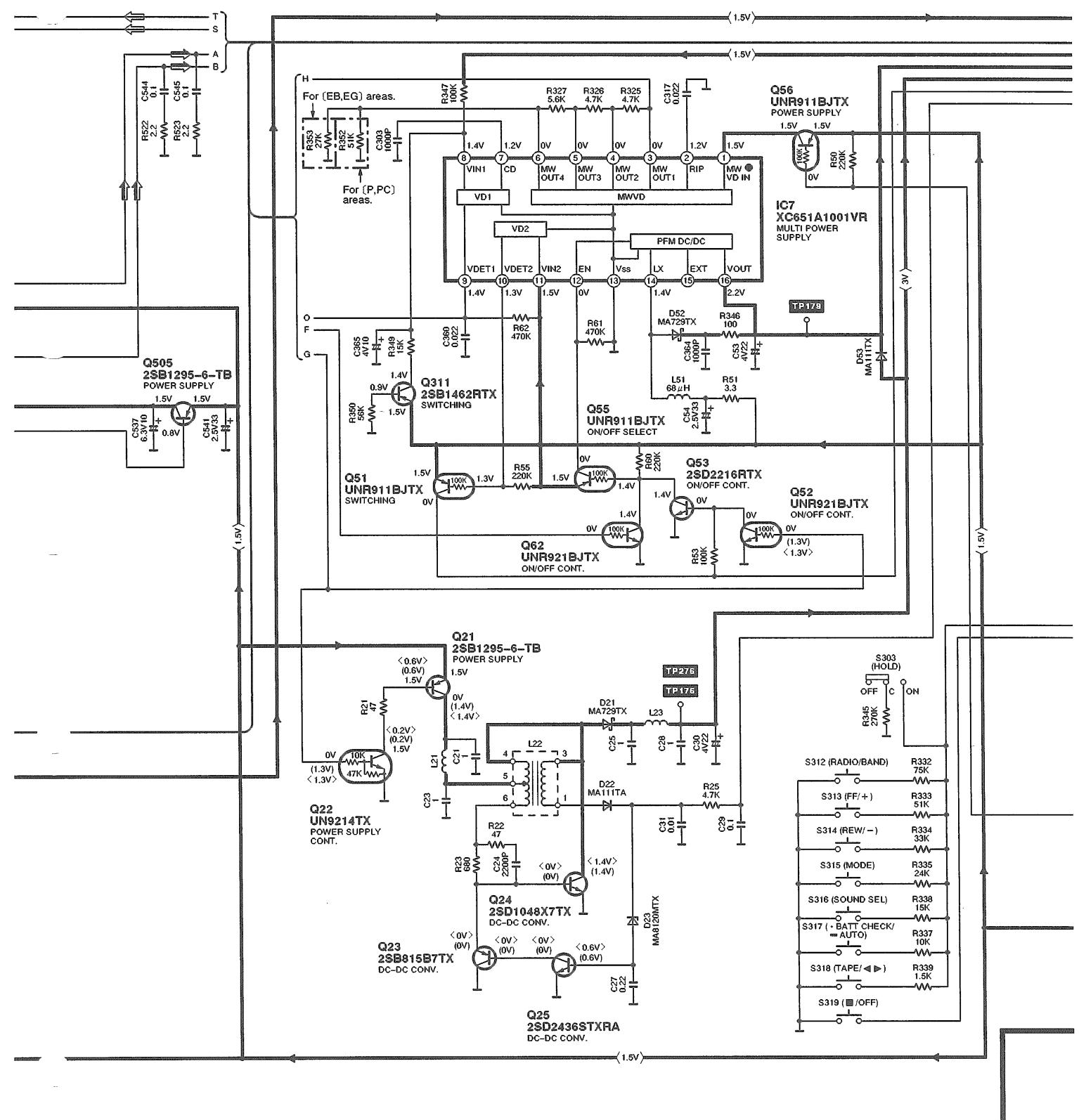
A MAIN CIRCUIT (P.C. Board: on pages 27, 28)

B HEAD CIRCUIT (P.C. Board: on page 28)

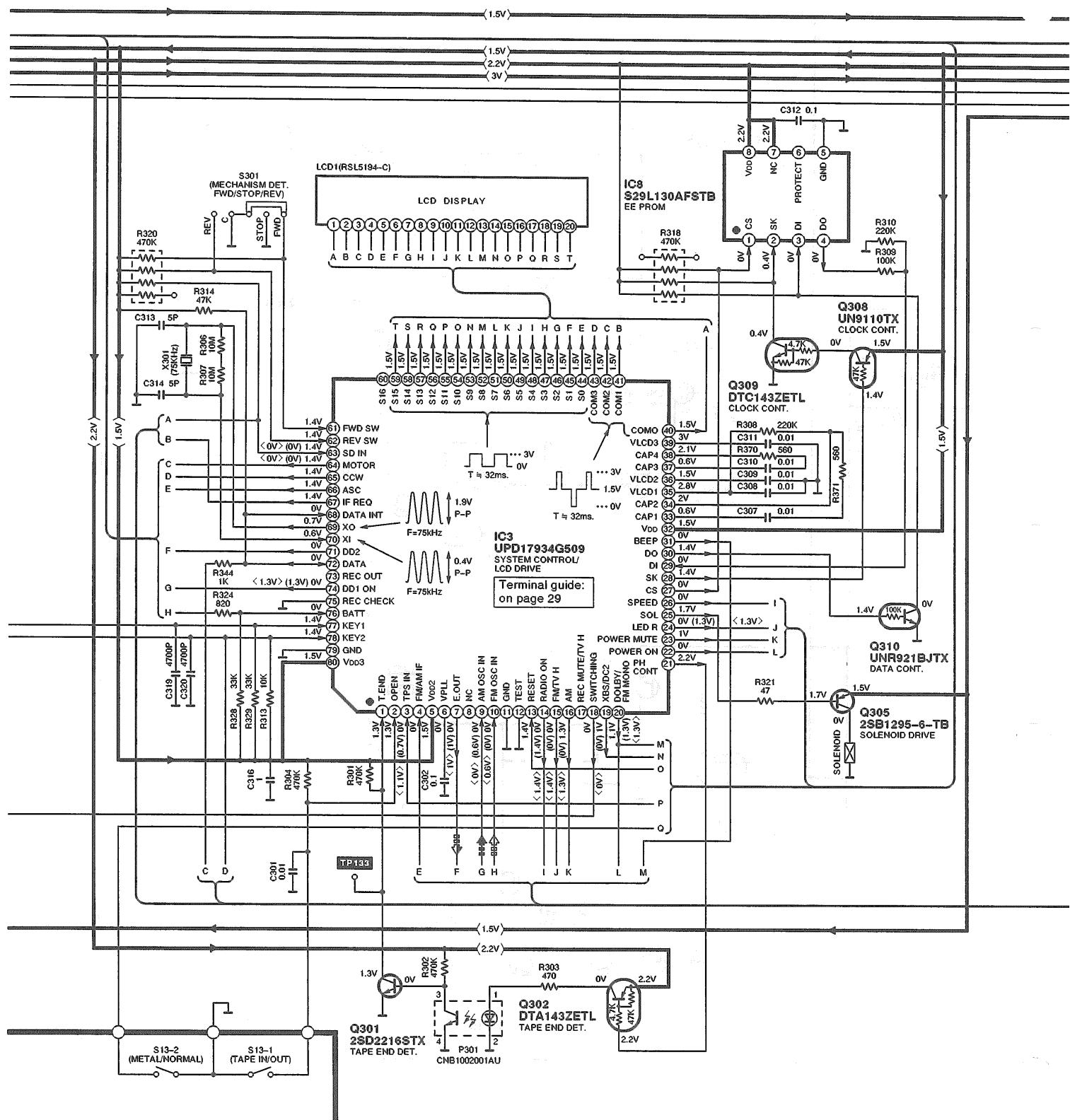


• Notes: : FM signal line

: Main (Tape/Radio) signal line

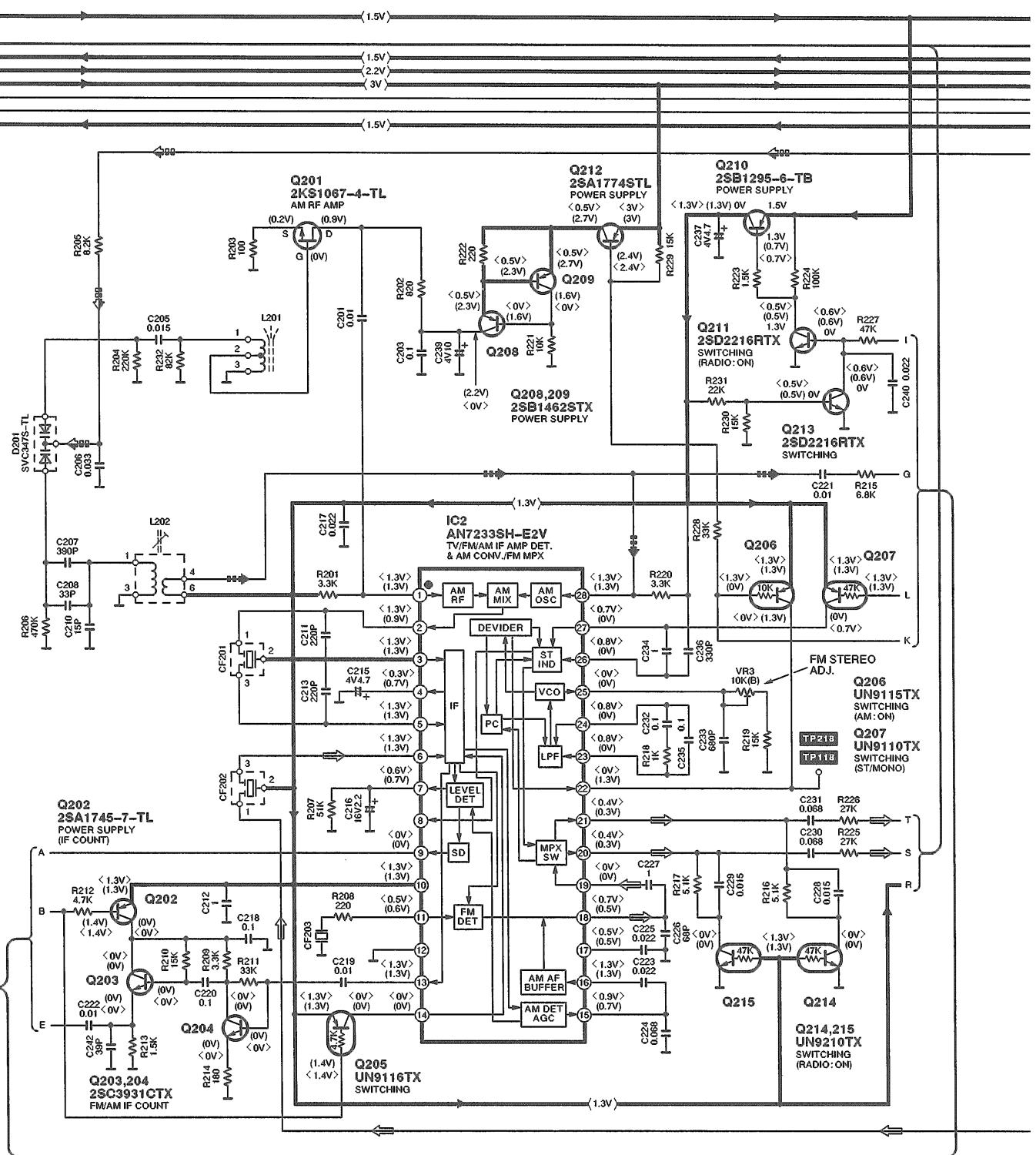


A MAIN CIRCUIT (P.C. Board: on pages 27,28)



- Notes:  : FM signal line
 : AM OSC signal line

□→ : FM OSC signal line
■→ : FM/AM Vcap signal line



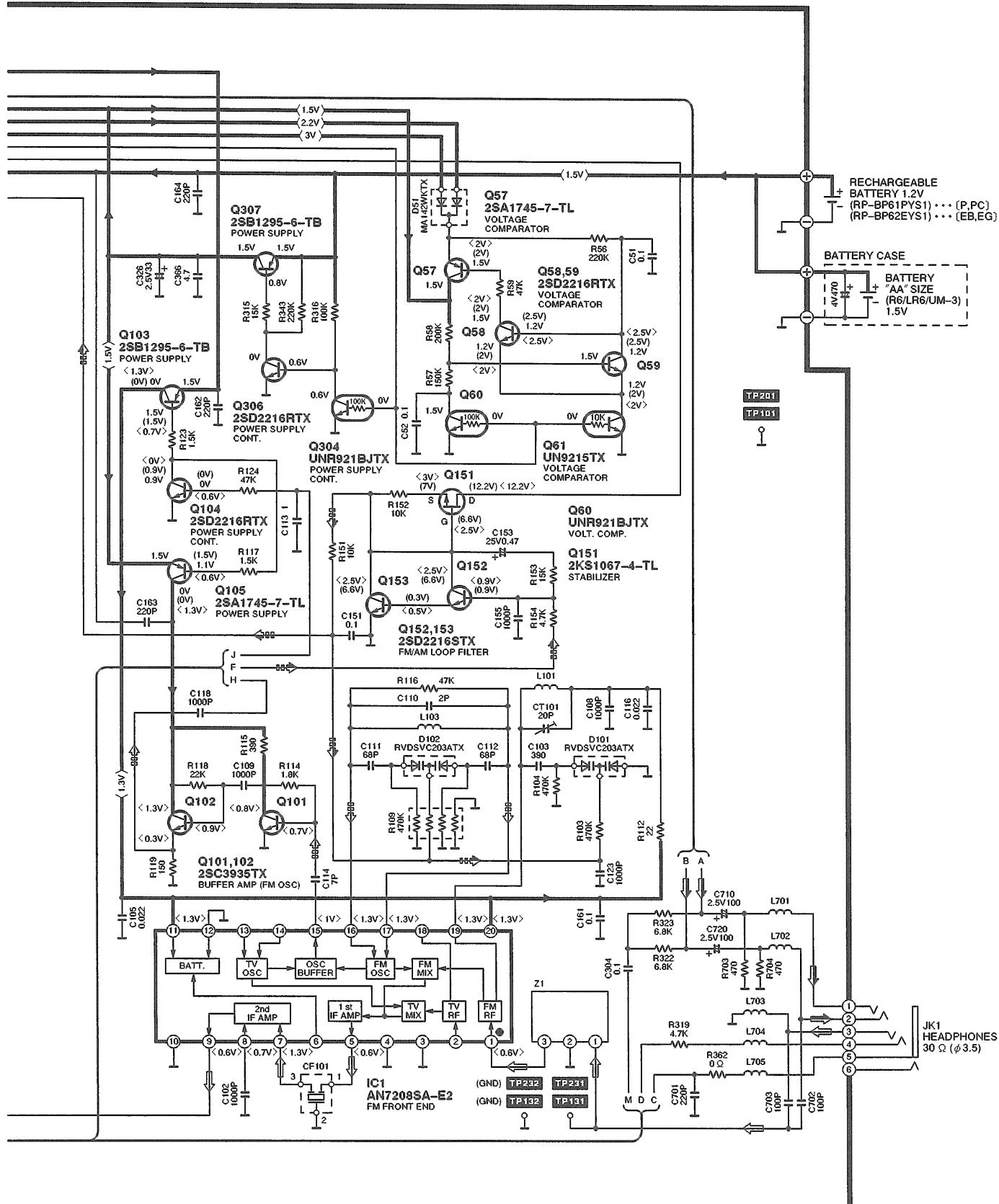
• Notes: → : FM signal line

□→ : FM OSC signal line

→ : Main (Tape/Radio) signal line

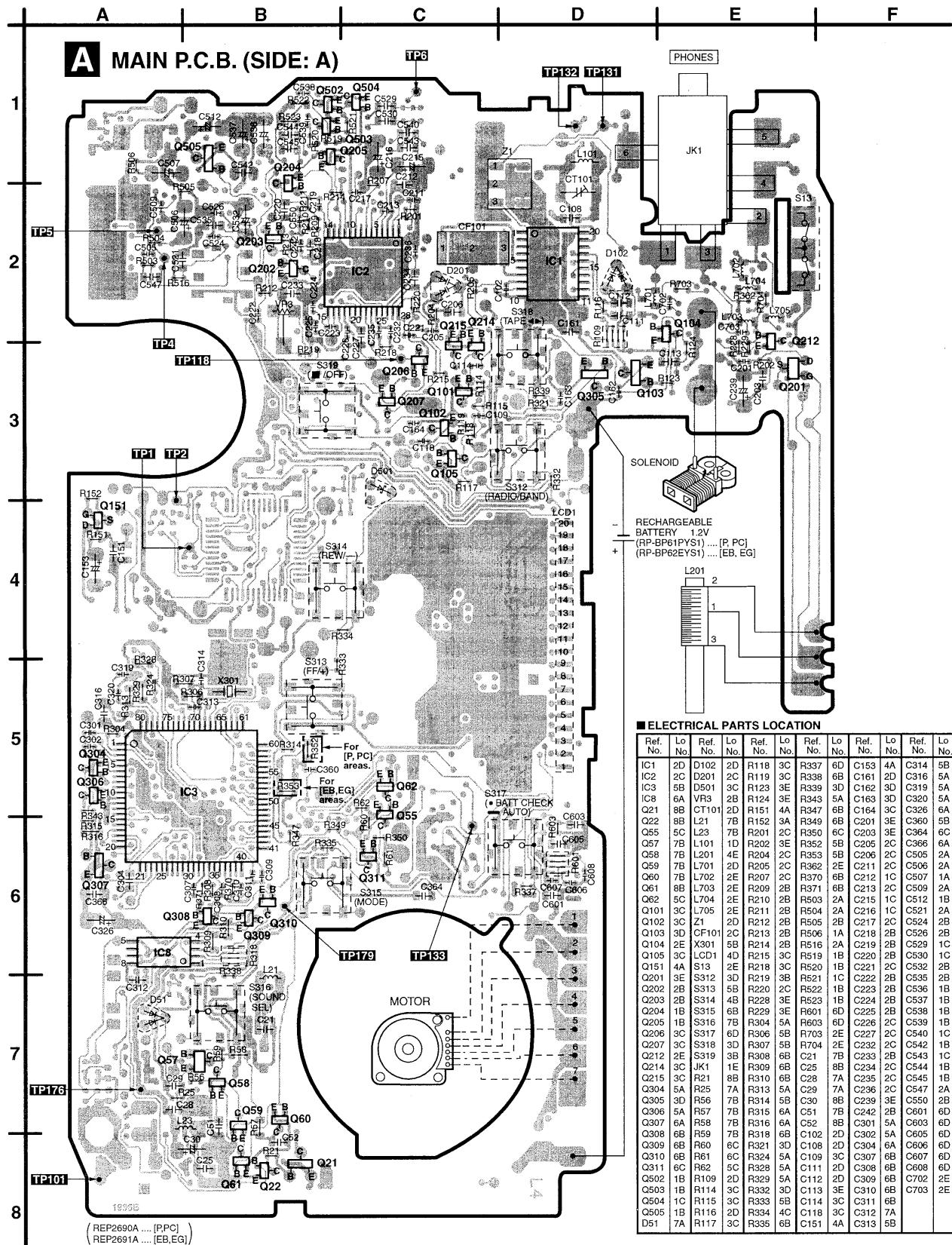
■→ : FM/AM Vcap signal line

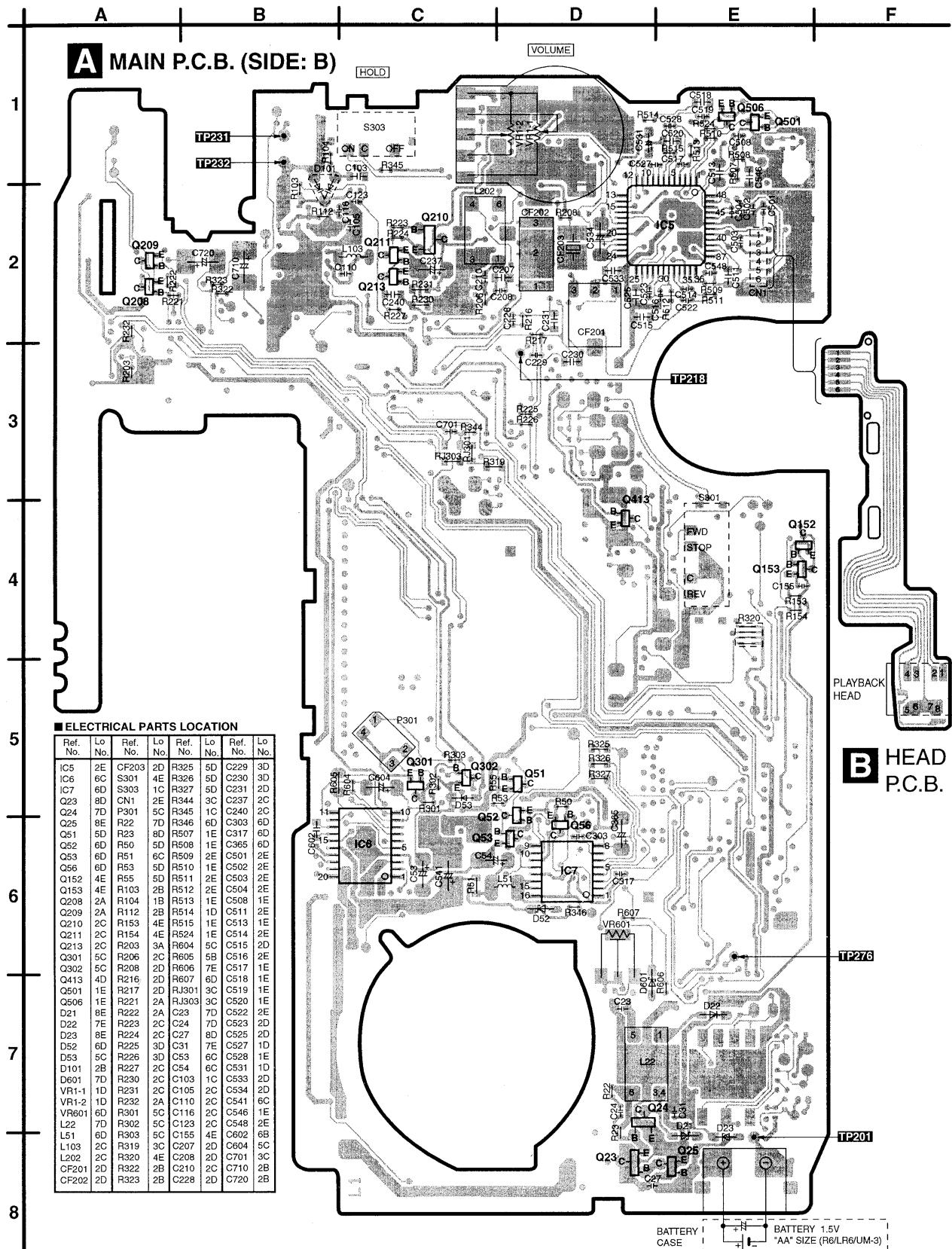
A MAIN CIRCUIT (P.C. Board: on pages 27, 28)



■ Printed Circuit Board and Wiring Connection Diagram

(This printed circuit board diagram may be modified at any time with the development of new technology.)





■ Terminal Guide

● IC3 (UPD17934G509): SYSTEM CONTROL/LCD DRIVE

Pin No.	Mark	I/O Division	Function
1	T.END	I	
2	OPEN	I	AM/FM input of port IC, timer event, IF counter
3	TPS IN	I	
4	FM/AM IF	I	
5	VDD2	I	Power supply terminal
6	VPLL	—	Regulator terminal for PLL
7	E.OUT	O	Output from charge pump for PLL frequency synthesizer
8	NC	—	Not used, open
9	AM OSC IN	I	
10	FM OSC IN	I	VCO frequency of PLL input
11	GND	—	GND terminal
12	TEST	—	Test input terminal. Connected to GND
13	RESET	I	Reset input
14	RADIO ON	O	
15	FM/TV H	O	
16	AM	O	
17	REC MUTE /TV H	O	
18	SWITCHING	O	
19	XBS/DC2	O	
20	DOLBY /FM MONO	O	
21	PH CONT	O	
22	POWER ON	O	
23	POWER MUTE	O	
24	LED R	O	
25	SOL	O	

Pin No.	Mark	I/O Division	Function
26	SPEED	O	4 bit output port
27	CS	O	
28	SK	O	
29	DI	I	POB and/or serial interface input/output and BEEP output
30	DO	O	
31	BEEP	O	
32	VDD	I	Power supply terminal
33	CAP1	—	Terminal to connect the condenser for dabura circuit to make LCD drive power supply
34	CAP2	—	
35	VLCD1	—	Regulator for LCD
36	VLCD2	—	
37	CAP3	—	Terminal to connect the condenser for dabura circuit to make LCD drive power supply
38	CAP4	—	
39	VLCD3	—	Regulator for LCD
40	COM0	O	
41	COM1	O	LCD controller/driver common signal output
42	COM2	O	
43	COM3	O	
44	S0	O	
45	S1	O	
46	S2	O	
47	S3	O	LCD controller/driver segment signal output
48	S4	O	
49	S5	O	
50	S6	O	

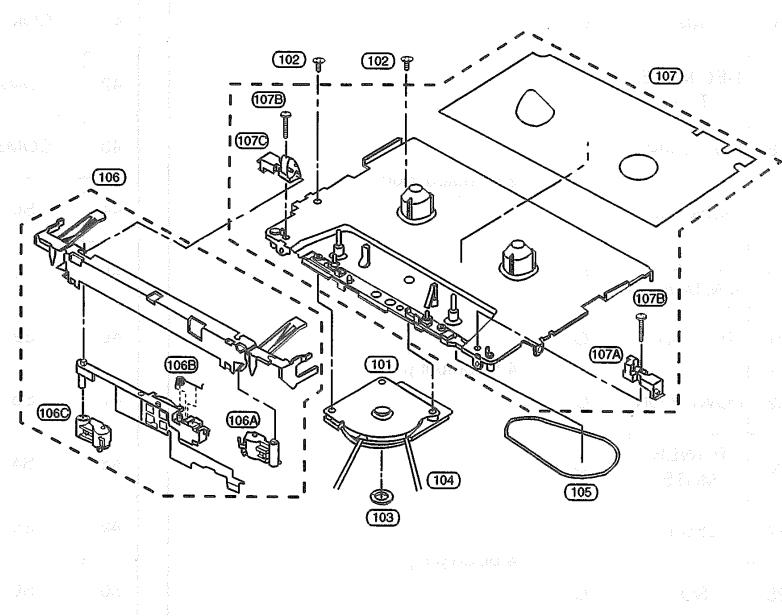
Pin No.	Mark	I/O Division	Function
51	S7	O	LCD controller/driver segment signal output
52	S8	O	
53	S9	O	
54	S10	O	
55	S11	O	
56	S12	O	
57	S13	O	
58	S14	O	
59	S15	O	
60	S16	—	
61	FWD SW	I	
62	REV SW	I	
63	SD IN	I	
64	MOTOR	O	
65	CCW	O	

Pin No.	Mark	I/O Division	Function
66	ASC	O	4 bit output
67	IF REQ	O	
68	DATA INT	I	Becta interface input of edge det.
69	X0	O	Crystal oscillator connection terminal
70	X1	I	
71	DD2	O	4 bit input/output port
72	DATA	I/O	
73	REC OUT	—	
74	DD1 ON	O	
75	REC CHECK	—	Port 0D input, A/D converter input, HALT, STOP loose signal input
76	BATT	I	
77	KEY1	I	
78	KEY2	I	
79	GND	—	GND terminal
80	VDD3	I	Power supply terminal

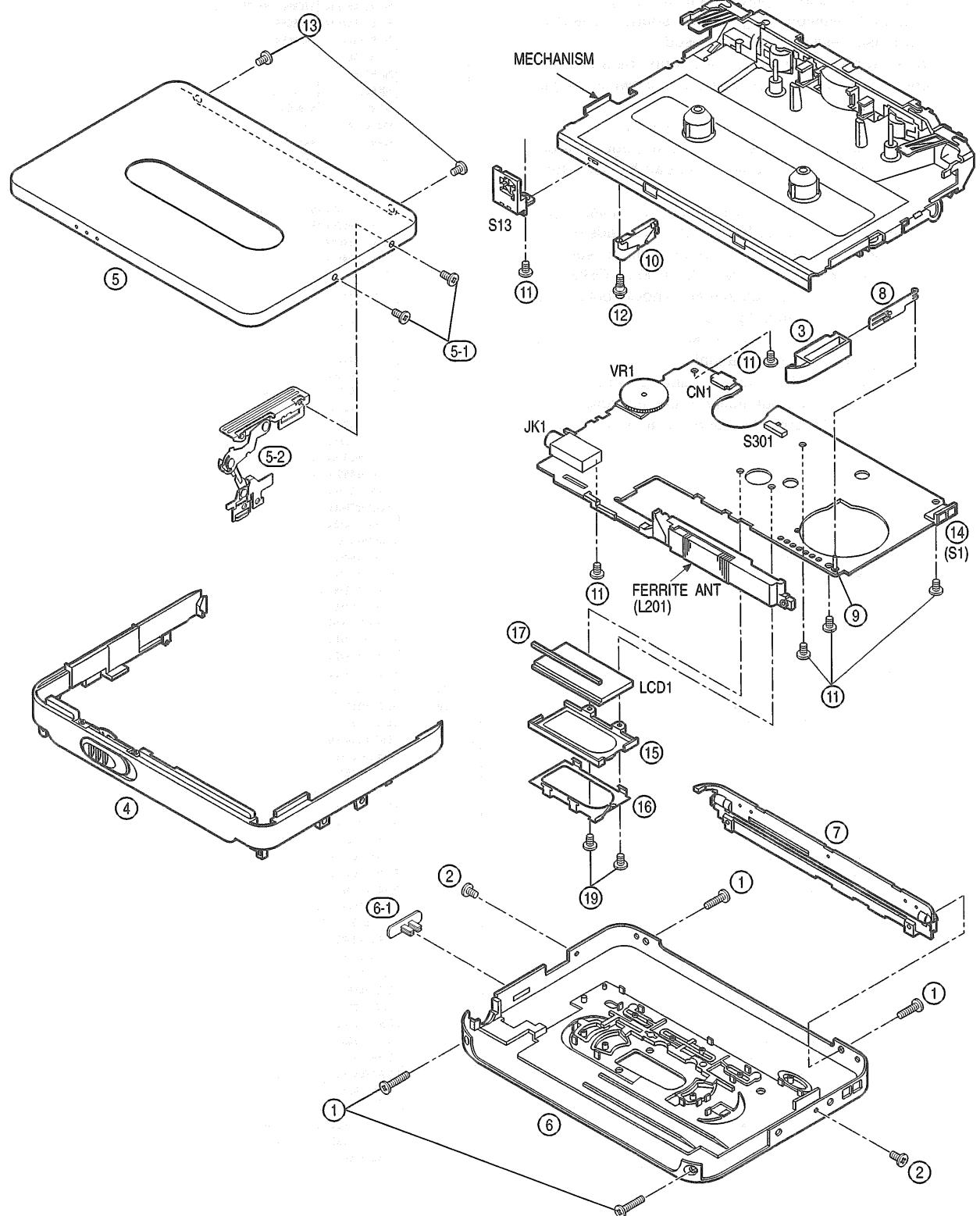
Mechanism Parts Location

Item	FWD & REV mode
Wow and flutter	0.3 % (WRMS)
Pressure of pinch roller	110±10 g
Take-up tension	More than 60 g
Playback torque	20±5 g
FF/REW torque	More than 60 g · cm

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.



■ Cabinet Parts Location



■ Replacement Parts List

Notes: * Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

* Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM)

* This item is not attached to merchandise, but it is supplied as a replacement parts.

* <IA>, <IB>, <IC>, <ID>, marks in Remarks indicate language of instruction manual.

[<IA>: English, <IB>: English/Canadian French,

<IC>: English/German/Italian/French/Spanish,

<ID>: Dutch/Swedish/Danish/Russian/Polish/Czeco]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A1	RQT4515-E	INSTRUCTION MANUAL	1	(EG)<ID>
A2	RP-BP61PYS1	RECHARGEABLE BATTERY	1	(P, PC)
A2	RP-BP62EYS1	RECHARGEABLE BATTERY	1	(EB, EG)
A2-1	RFA0475-Q	R. BATTERY CARRYING CASE	1	
A3	RFA0617-H	DRY CELL BATTERY CASE	1	
A6	RFEV316P-K1S	STEREO INSIDEPHONES	1	
Δ A7	RP-BC155AEYA	CHARGER	1	(EB, EG)
Δ A7	RP-BC156APF	CHARGER	1	(P)
Δ A7	RP-BC156PCF	CHARGER	1	(PC)
A9	RQCB0169	SERVICENTER LIST	1	(EB, EG)
A9	RQCB0391	SERVICENTER LIST	1	(P, PC)
A10	RFEV012P-KS	REMOCON	1	
A11*	RKB205ZA-0	EAR PADS	1	
A12	RQA0117	WARRANTY CARD	1	(EB, EG)
A12	SQX7183	WARRANTY CARD	1	(PC)
C21, 23	ECUV0J105ZVF	6.3V 1U	2	
C24	ECUE1H222KBQ	50V 2200P	1	
C25, 28	ECUV0J105ZVF	6.3V 1U	2	
C27	ECUV1A224KBV	10V 0.22U	1	
C29	ECUV1C104KBV	16V 0.1U	1	
C30	RCSX0GY226RE	4V 22U	1	
C31	ECUE1C103KBQ	16V 0.01U	1	
C51	ECUVNC104ZVF	16V 0.1U	1	
C52	ECUV1C104KBV	16V 0.1U	1	
C53	RCSX0GY226RE	4V 22U	1	
C54	RCSX0EY336RE	2.5V 33U	1	
C102	ECUE1H102KBQ	50V 1000P	1	
C103	ECUV1H391GCV	50V 390P	1	
C105	ECUE1C223KBQ	16V 0.022U	1	
C108	ECUV1H102KBV	50V 1000P	1	
C109	ECUE1H102KBQ	50V 1000P	1	
C110	ECUE1H202CCQ	50V 2P	1	
C111, 12	ECUV1H680GCV	50V 68P	2	
C113	ECUV0J105ZVF	6.3V 1U	1	
C114	ECUE1H070DCQ	50V 7P	1	
C116	ECUE1C223KBQ	16V 0.022U	1	
C118, 23	ECUE1H102KBQ	50V 1000P	2	
C151	ECUV1C104KBV	16V 0.1U	1	
C153	RCST1EY474RE	25V 0.47U	1	
C155	ECUE1H102KBQ	50V 1000P	1	
C161	ECUV1C104KBV	16V 0.1U	1	
C162-64	ECUE1H221KBQ	50V 220P	3	
C201	ECUE1H103ZFQ	50V 0.01U	1	
C203	ECUE1C104ZVF	16V 0.1U	1	
C205	ECUE1C153KBQ	16V 0.015U	1	
C206	RCUV1C333KBV	16V 0.033U	1	
C207	ECUV1H391GCV	50V 390P	1	
C208	ECUE1H330JCQ	50V 33P	1	
C210	ECUE1H150JCQ	50V 15P	1	
C211	ECUE1H221KBQ	50V 220P	1	
C212	ECUV0J105ZVF	6.3V 1U	1	
C213	ECUE1H221KBQ	50V 220P	1	
C215	RCST0GY475RG	4V 4.7U	1	
C216	RCST1CY225RG	16V 2.2U	1	
C217	ECUE1C223KBQ	16V 0.022U	1	
C218	ECUVNC104ZVF	16V 0.1U	1	
C219	ECUE1C103KBQ	16V 0.01U	1	
C220	ECUE1C104ZFQ	16V 0.1U	1	
C221	ECUE1H103ZFQ	50V 0.01U	1	
C222	ECUE1C103KBQ	16V 0.01U	1	
C223	ECUE1C223KBQ	16V 0.022U	1	
C224	ECUENJ683KBQ	63V 0.068U	1	
C225	ECUE1C223KBQ	16V 0.022U	1	
C226	ECUE1H680JCQ	50V 68P	1	
C227	ECUV0J105ZVF	6.3V 1U	1	
C228, 29	ECUE1C153KBQ	16V 0.015U	2	
C230, 31	ECUV1C683KBV	16V 0.068U	2	
C232	ECUENJ104KBQ	63V 0.1U	1	
C233	ECUV1H681KCV	50V 680P	1	
C234	ECUV0J105ZVF	6.3V 1U	1	
C235	ECUENJ104KBQ	63V 0.1U	1	
C236	ECUE1H331KBQ	50V 330P	1	
C237	RCST0GY475RG	4V 4.7U	1	
C239	RCSX0GY106RE	4V 10U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C240	ECUV1C223KBV	16V 0.022U	1		D21	MA729TX	DIODE	1	
C242	ECUE1H390JQ	50V 39P	1		D22	MA111TX	DIODE	1	
C301	ECUE1C103KBQ	16V 0.01U	1		D23	MA8120M	DIODE	1	
C302	ECUVNC104ZVF	16V 0.1U	1		D51	MA142WKT	DIODE	1	
C303	ECUE1H102KBQ	50V 1000P	1		D52	MA729TX	DIODE	1	
C304	ECUVNC104ZVF	16V 0.1U	1		D53	MA111TX	DIODE	1	
C307-11	ECUE1C103KBQ	16V 0.01U	5		D101, 02	RVDSVC203ATX	DIODE	2	
C312	ECUVNC104ZVF	16V 0.1U	1		D201	SVC347S-TL	DIODE	1	
C313, 14	ECUE1H050DCQ	50V 5P	2		D501	SB00703QTL	DIODE	1	
C316	ECUV0J105ZVF	6.3V 1U	1		D601	MA729TX	DIODE	1	
C317	ECUE1C223KBQ	16V 0.022U	1		IC1	AN7208SA-E2	IC	1	
C319, 20	ECUE1E472KBQ	25V 4700P	2		IC2	AN7233SH-E2V	IC	1	
C326	ECSTOEY336RR	2.5V 33U	1		IC3	UPD17934G509	IC	1	
C360	ECUE1C223KBQ	16V 0.022U	1		IC5	AN7500FHQ-E8	IC	1	
C364	ECUVNC473KBV	16V 0.047U	1		IC6	MM1279XVBE	IC	1	
C365	RCSX0GY106RE	4V 10U	1		IC7	XC651A1001VR	IC	1	
C366	ECUV1A475ZFN	10V 4.7U	1		IC8	S29L130AFSTB	IC	1	
C501-04	ECUE1H102KBQ	50V 1000P	4		JK1	RJJ36TK03-1C	JACK, HEADPHONES	1	
C505	ECUE1C223KBQ	16V 0.022U	1		L21	RLBN102V-Y	COIL, CHOKE	1	
C506, 07	RCSX0EY336RE	2.5V 33U	2		L22	RL09U022T	COIL, DC-DC CONV.	1	
C508	ECUE1C223KBQ	16V 0.022U	1		L23	RLBN182DV-Y	COIL, CHOKE	1	
C509	ECUE1H681KBQ	50V 680P	1		L51	ELJSA680KF	COIL, CHOKE	1	
C511	ECUVNC473KBV	16V 0.047U	1		L101	RL04Z030T-W	COIL, CHOKE	1	
C512	RCSTOGY156RG	4V 15U	1		L103	RL04Z029T-W	COIL, CHOKE	1	
C513	ECUVNA225KBQ	10V 2.2U	1		L201	RLV2N045-0	COIL, FERRITE ANT.	1	
C514	ECUE1E332KBQ	25V 3300P	1		L202	RL02U022T-M	COIL, OSC	1	
C515, 18	ECUV0J105ZVF	6.3V 1U	2		L701-05	RLBV601AV-Y	COIL, CHOKE	5	
C516	ECUE1C103KBQ	16V 0.01U	1		LCD1	RSL5194-C	LCD DISPLAY	1	
C517	ECUE1E332KBQ	25V 3300P	1		P1	RPK1062	PACKING CASE	1 (EB, EG)	
C519	ECUE1C103KBQ	16V 0.01U	1		P1	RPK1063	PACKING CASE	1 (P, PC)	
C520, 21	ECUVNC334ZVF	16V 0.33U	2		P3	RPQ0581-1	SPACER	1	
C522	ECUE1C153KBQ	16V 0.015U	1		P4	RPQ0575	PAD	1 (EB, EG)	
C523	ECUE1H182KBQ	50V 1800P	1		P5	RPF0127	PROTECTION BAG(UNIT)	1	
C524	ECUE1H681KBQ	50V 680P	1		P301	CNB1002001AU	PHOTO COUPLER	1	
C525	ECUV1C104KBV	16V 0.1U	1		PCB1	REP2690A	MAIN P.C.B	1 (RTL) (P, PC)	
C526	ECUE1H681KBQ	50V 680P	1		PCB1	REP2691A	MAIN P.C.B.	1 (RTL) (EB, EG)	
C527	ECUE1H182KBQ	50V 1800P	1		Q21	2SB1295-6-TB	TRANSISTOR	1	
C528	ECUE1C153KBQ	16V 0.015U	1		Q22	UN9214TX	TRANSISTOR	1	
C529, 30	ECUV0J105ZVF	6.3V 1U	2		Q23	2SB815B7TX	TRANSISTOR	1	
C531	RCSTOZ685RE	2.5V 6.8U	1		Q24	2SD1048X7TX	TRANSISTOR	1	
C532	RCSTOGA685RE	4V 6.8U	1		Q25	2SD2436STXRA	TRANSISTOR	1	
C533	ECUV1A154KBV	10V 0.15U	1		Q51	UNR911BJTX	TRANSISTOR	1	
C534	RCSTOGY685RG	4V 6.8U	1		Q52	UNR921BJTX	TRANSISTOR	1	
C535	ECUVNC473KBV	16V 0.047U	1		Q53	2SD2216RTX	TRANSISTOR	1	
C536	RCSX0GY226RE	4V 22U	1		Q55, 56	UNR911BJTX	TRANSISTOR	2	
C537	RCSTOJY106TG	6.3V 10U	1		Q57	2SA1745-7-TL	TRANSISTOR	1	
C538, 39	ECUE1E392KBQ	25V 3900P	2		Q58, 59	2SD2216RTX	TRANSISTOR	2	
C540, 43	ECUV0J105ZVF	6.3V 1U	2		Q60	UNR921BJTX	TRANSISTOR	1	
C541	ECSTOEY336RR	2.5V 33U	1		Q61	UN9215TX	TRANSISTOR	1	
C542	ECUV1A475ZFN	10V 4.7U	1		Q62	UNR921BJTX	TRANSISTOR	1	
C544, 45	ECUV1C104KBV	16V 0.1U	2		Q101, 02	2SC3935TX	TRANSISTOR	2	
C546, 47	ECUV0J105ZVF	6.3V 1U	2		Q103	2SB1295-6-TB	TRANSISTOR	1	
C548	ECUE1H222KBQ	50V 2200P	1		Q104	2SD2216RTX	TRANSISTOR	1	
C550	ECUE1H102KBQ	50V 1000P	1		Q105	2SA1745-7-TL	TRANSISTOR	1	
C601	ECUV0J474KBV	6.3V 0.47U	1		Q151	2SK1067-4-TL	TRANSISTOR	1	
C602	ECUV1A224KBV	10V 0.22U	1		Q152, 53	2SD2216STX	TRANSISTOR	2	
C603	ECUV1C104KBV	16V 0.1U	1		Q201	2SK1067-4-TL	TRANSISTOR	1	
C604	RCSTOGY475RG	4V 4.7U	1		Q202	2SA1745-7-TL	TRANSISTOR	1	
C605	ECUV1C104KBV	16V 0.1U	1		Q203, 04	2SC3931CTX	TRANSISTOR	2	
C606-08	ECUE1C103KBQ	16V 0.01U	3		Q205	UN9116TX	TRANSISTOR	1	
C701	ECUE1H221KBQ	50V 220P	1		Q206	UN9115TX	TRANSISTOR	1	
C702, 03	ECUE1H101KBQ	50V 100P	2		Q207	UN9110TX	TRANSISTOR	1	
C710	RCSTOEX107RE	2.5V 100U	1		Q208, 09	2SB1462STX	TRANSISTOR	2	
C720	RCSTOEX107RE	2.5V 100U	1		Q210	2SB1295-6-TB	TRANSISTOR	1	
CF101	RLFFECWN02AL	CERAMIC FILTER	1		Q211	2SD2216RTX	TRANSISTOR	1	
CF201	RLFFCFM3450A	CERAMIC FILTER	1 (P, PC)		Q212	2SA1774STL	TRANSISTOR	1	
CF201	RLFFCFM3459A	CERAMIC FILTER	1 (EB, EG)		Q213	2SD2216RTX	TRANSISTOR	1	
CF202	RLFFECWN02AL	CERAMIC FILTER	1		Q214, 15	UN9210TX	TRANSISTOR	2	
CF203	RLFDFOC02AL	CERAMIC FILTER	1						
CN1	RJS2A160ST	CONNECTOR (6P)	1						
CT101	RCVCFA20C02X	TRIMMER	1						

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q301	2SD2216STX	TRANSISTOR	1		R304	ERJ2GEJ474X	1/4W 470K	1	
Q302	DTA143ZETL	TRANSISTOR	1		R306, 07	ERJ3GEYJ106V	1/16W 10M	2	
Q304	UNR921BJTX	TRANSISTOR	1		R308	ERJ2GEJ24X	1/4W 220K	1	
Q305	2SB1295-6-TB	TRANSISTOR	1		R309	ERJ3GEYD104V	1/16W 100K	1	
Q306	2SD2216RTX	TRANSISTOR	1		R310	ERJ3GEYD224V	1/16W 220K	1	
Q307	2SB1295-6-TB	TRANSISTOR	1		R313	ERJ3GEYD103V	1/16W 10K	1	
Q308	UN9110TX	TRANSISTOR	1		R314	ERJ2GEJ473X	1/4W 47K	1	
Q309	DTC143ZETL	TRANSISTOR	1		R315	ERJ2GEJ153X	1/4W 15K	1	
Q310	UNR921BJTX	TRANSISTOR	1		R316	ERJ3GEYD104V	1/16W 100K	1	
Q311	2SB1462RTX	TRANSISTOR	1		R318	EXB28V474JX	1/32W 470K×4	1	
Q413	UN9210TX	TRANSISTOR	1		R319	ERJ3GEYD472V	1/16W 4.7K	1	
Q501	UN9110TX	TRANSISTOR	1		R320	EXB28V474JX	1/32W 470K×4	1	
Q502, 03	UN9215TX	TRANSISTOR	2		R321	ERJ2GEJ470X	1/4W 47	1	
Q504	UNR921BJTX	TRANSISTOR	1		R322, 23	ERJ2GEJ682X	1/4W 6.8K	2	
Q505	2SB1295-6-TB	TRANSISTOR	1		R324	ERJ2GEJ821X	1/4W 820	1	
Q506	UN9110TX	TRANSISTOR	1		R325, 26	ERJ3GEYD472V	1/16W 4.7K	2	
R21, 22	ERJ2GEJ470X	1/4W 47	2		R327	ERJ3GEYJ562V	1/16W 5.6K	1	
R23	ERJ2GEJ681X	1/4W 680	1		R328, 29	ERJ3GEYD333V	1/16W 33K	2	
R25	ERJ2GEJ472X	1/4W 4.7K	1		R332	ERJ2GEJ753X	1/4W 75K	1	
R50	ERJ2GEJ224X	1/4W 220K	1		R333	ERJ2GEJ513X	1/4W 51K	1	
R51	ERJ3GEYJ3R3V	1/16W 3.3	1		R334	ERJ2GEJ333X	1/4W 33K	1	
R53	ERJ2GEJ104X	1/4W 100K	1		R335	ERJ2GEJ243X	1/4W 24K	1	
R55, 56	ERJ2GEJ224X	1/4W 220K	2		R337	ERJ2GEJ103X	1/4W 10K	1	
R57	ERJ3GEYD154V	1/16W 150K	1		R338	ERJ2GEJ153X	1/4W 15K	1	
R58	ERJ3GEYD204V	1/16W 200K	1		R339	ERJ2GEJ152X	1/4W 1.5K	1	
R59	ERJ2GEJ473X	1/4W 47K	1		R343	ERJ2GEJ224X	1/4W 220K	1	
R60	ERJ2GEJ224X	1/4W 220K	1		R344	ERJ2GEJ102X	1/4W 1K	1	
R61, 62	ERJ2GEJ474X	1/4W 47K	2		R345	ERJ2GEJ274	1/4W 270K	1	
R103, 04	ERJ2GEJ474X	1/4W 47K	2		R346	ERJ2GEJ101X	1/4W 100	1	
R109	EXB28V474JX	1/32W 470K×4	1		R347	ERJ2GEJ104X	1/4W 100K	1	
R112	ERJ2GEJ220X	1/4W 22	1		R349	ERJ2GEJ153X	1/4W 15K	1	
R114	ERJ2GEJ182X	1/4W 1.8K	1		R350	ERJ2GEJ563X	1/4W 56K	1	
R115	ERJ2GEJ391X	1/4W 390	1		R352	ERJ3GEYJ513V	1/16W 51K	1	(P, PC)
R116	ERJ2GEJ473X	1/4W 47K	1		R353	ERJ3GEYJ273V	1/16W 27K	1	(EB, EG)
R117	ERJ2GEJ152X	1/4W 1.5K	1		R362	ERJ2GE0R00X	CHIP JUMPER	1	
R118	ERJ2GEJ223X	1/4W 22K	1		R370, 71	ERJ2GEJ561X	1/4W 560	2	
R119	ERJ2GEJ151X	1/4W 150	1		R503	ERJ2GEJ153X	1/4W 15K	1	
R123	ERJ2GEJ152X	1/4W 1.5K	1		R504, 07	ERJ2GEJ682X	1/4W 6.8K	2	
R124	ERJ2GEJ473X	1/4W 47K	1		R505, 06	ERJ2GEJ151X	1/4W 150	2	
R151, 52	ERJ2GEJ103X	1/4W 10K	2		R508	ERJ2GEJ153X	1/4W 15K	1	
R153	ERJ2GEJ153X	1/4W 15K	1		R509	ERJ2GEJ103X	1/4W 10K	1	
R154	ERJ2GEJ472X	1/4W 4.7K	1		R510	ERJ2GEJ822X	1/4W 8.2K	1	
R201	ERJ2GEJ332X	1/4W 3.3K	1		R511, 13	ERJ2GEJ182X	1/4W 1.8K	2	
R202	ERJ2GEJ921X	1/4W 820	1		R512	ERJ2GEJ153X	1/4W 15K	1	
R203	ERJ2GEJ101X	1/4W 100	1		R514	ERJ2GEJ153X	1/4W 15K	1	
R204	ERJ2GEJ224X	1/4W 220K	1		R515, 16	ERJ2GEJ394X	1/4W 390K	2	
R205	ERJ2GEJ822X	1/4W 8.2K	1		R519, 20	ERJ2GEJ183X	1/4W 18K	2	
R206	ERJ2GEJ474X	1/4W 470K	1		R521	ERJ2GEJ473X	1/4W 47K	1	
R207	ERJ2GEJ513X	1/4W 51K	1		R522, 23	ERJ3GEYJ2R2V	1/16W 2.2	2	
R208	ERJ2GEJ221X	1/4W 220	1		R524	ERJ2GEJ103X	1/4W 10K	1	
R209	ERJ2GEJ332X	1/4W 3.3K	1		R601	EXB28V154JX	1/32W 150K×4	1	
R210	ERJ2GEJ153X	1/4W 15K	1		R603	ERJ2GEJ101X	1/4W 100	1	
R211	ERJ2GEJ333X	1/4W 33K	1		R604	ERJ2GEJ123X	1/4W 12K	1	
R212	ERJ2GEJ472X	1/4W 4.7K	1		R605	ERAS27J512V	1/4W 5.1K	1	
R213	ERJ2GEJ152X	1/4W 1.5K	1		R606	ERJ2GEJ472X	1/4W 4.7K	1	
R214	ERJ2GEJ181X	1/4W 180	1		R607	ERJ2GEJ123X	1/4W 12K	1	
R215	ERJ2GEJ682X	1/4W 6.8K	1		R703, 04	ERJ2GEJ471X	1/4W 470	2	
R216, 17	ERJ2GEJ512X	1/4W 5.1K	2		RJ301	ERJ3GEY0R00V	CHIP JUMPER	1	
R218	ERJ2GEJ102X	1/4W 1K	1		RJ303	ERJ3CEY0R00V	CHIP JUMPER	1	
R219	ERJ2GEJ153X	1/4W 15K	1		S13	RSH1B011-1U	SW, TAPE OPEN/CLOSE	1	
R220	ERJ2GEJ332X	1/4W 3.3K	1		S301	RSS2A012-1A	SW, MECHANISM DET	1	
R221	ERJ2GEJ103X	1/4W 10K	1		S303	RSS2A010-1A	SW, HOLD	1	
R222	ERJ2GEJ221X	1/4W 220	1		S312-19	EVQPLMA15	SW, PUSH	8	
R223	ERJ2GEJ152X	1/4W 1.5K	1		SA1	QZZCWAT	TAPE SPEED ADJ.	1	
R224	ERJ2GEJ104X	1/4W 100K	1		VR1	EVUT0VA05A54	VR, VOLUME	1	
R225, 26	ERJ2GEJ273X	1/4W 27K	2		VR3	EVM1SSX50B14	VR, FM STEREO ADJ.	1	
R227	ERJ2GEJ473X	1/4W 47K	1		VR601	EVM1CSX10B14	VR, TAPE SPEED ADJ.	1	
R228	ERJ2GEJ333X	1/4W 33K	1		X301	RSXC75K0L02T	OSCILLATOR	1	
R229	ERJ2GEJ153X	1/4W 15K	1		Z1	RXACBPWB1GTR	COMPONENT COMBINATION	1	
R231	ERJ3GEYD223V	1/16W 22K	1						
R232	ERJ2GEJ823X	1/4W 82K	1						
R301, 02	ERJ2GEJ474X	1/4W 470K	2						
R303	ERJ2GEJ471X	1/4W 470	1						

■ Supply of Rechargeable Battery as Replacement Parts

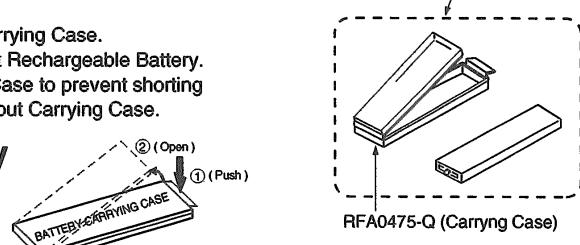
Please take note of the following points relating to Carrying Case to be used for protection of Rechargeable Battery from shorting.

Replacement Parts:

- Rechargeable Battery (RP-BP61PYS1 (P, PC), RP-BP62EYS-1 (EB, EG) to be supplied will be provided with Carrying Case (RFA0475-Q).
- No replacement parts will be supplied for Rechargeable Battery without Carrying Case.
- Replacement parts will be supplied for Carrying Case (RFA0475-Q) without Rechargeable Battery.
- To your customers, delivery Rechargeable Battery together with Carrying Case to prevent shorting accidents that may occur when Rechargeable Battery is carried about without Carrying Case.

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RP-BP62EYS-1(EB, EG)
RP-BP61PYS1(P, PC)
(Rechargeable Battery with
Carrying Case)



■ Caution in Use of Rechargeable Battery

- Take Rechargeable Battery out of Carrying Case and use it.
- Be sure to carry Rechargeable Battery in this Carrying Case.

■ Packaging

